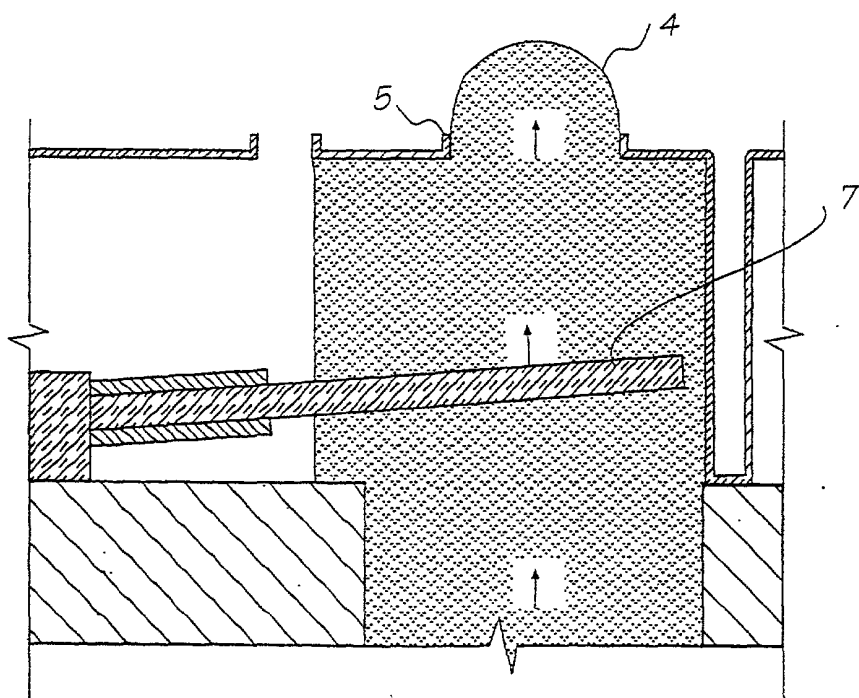
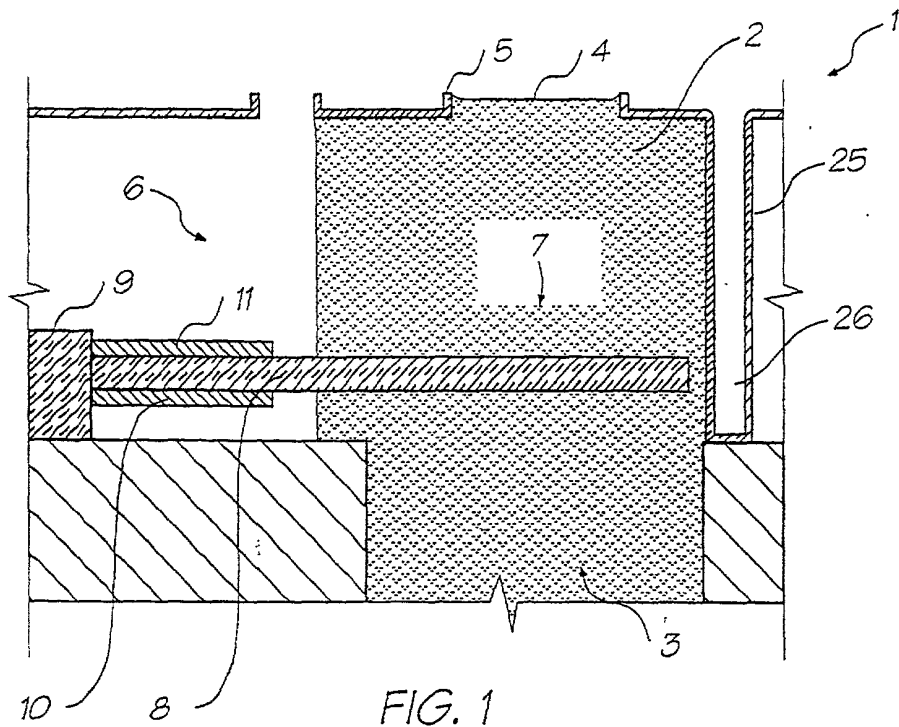


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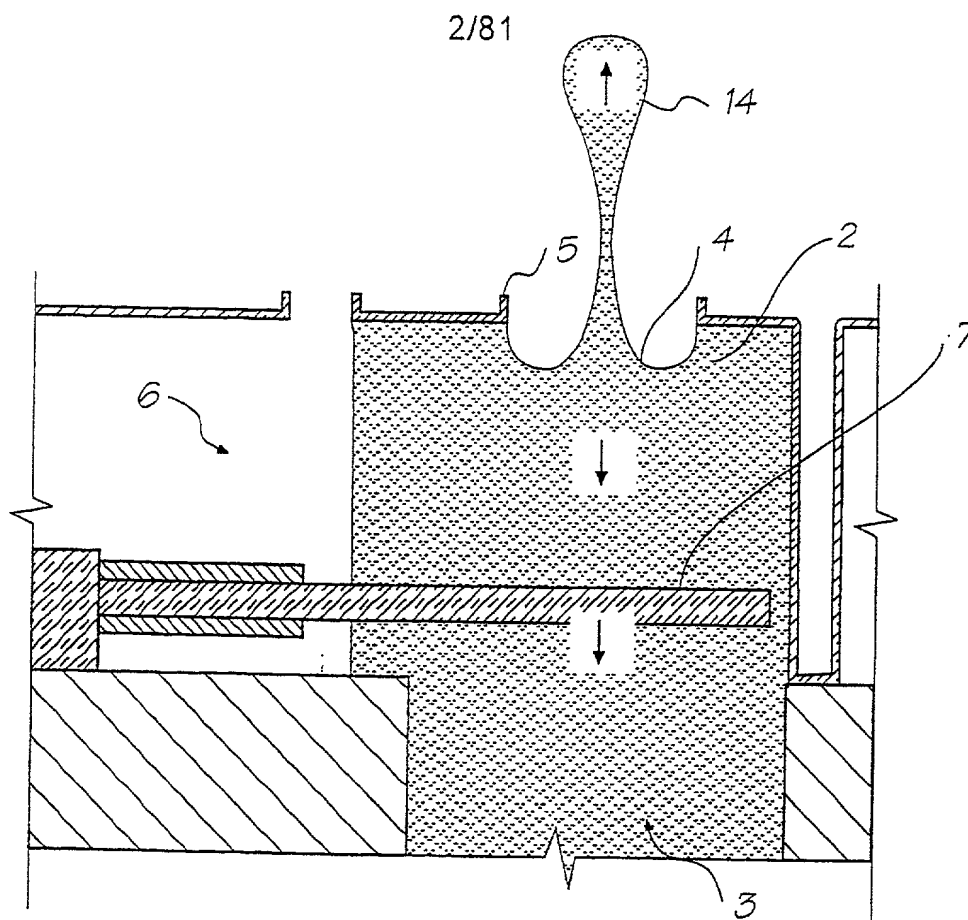


FIG. 3

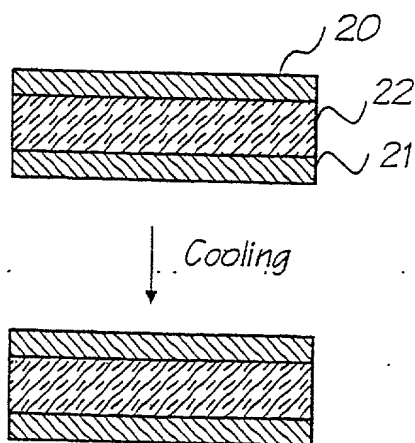


FIG. 4

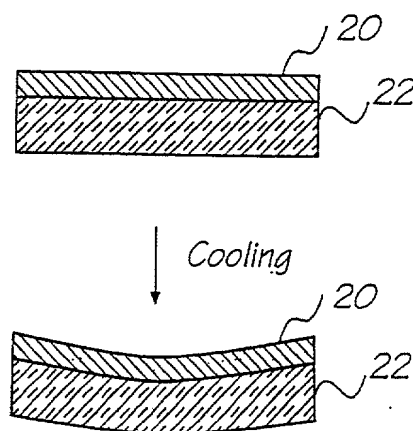


FIG. 5

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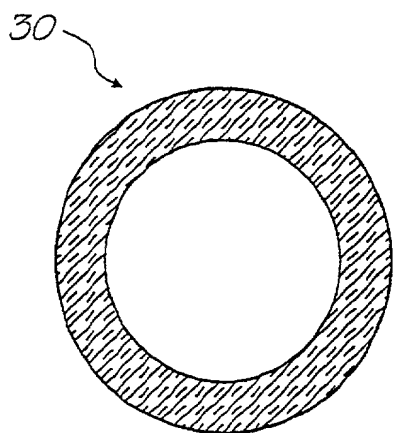


FIG. 6

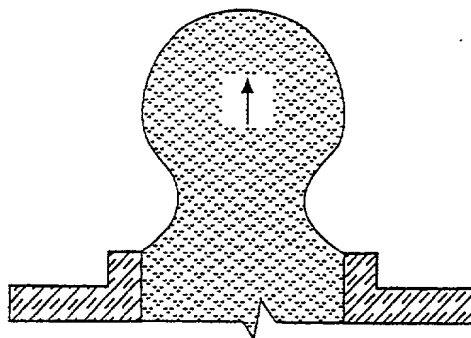


FIG. 7

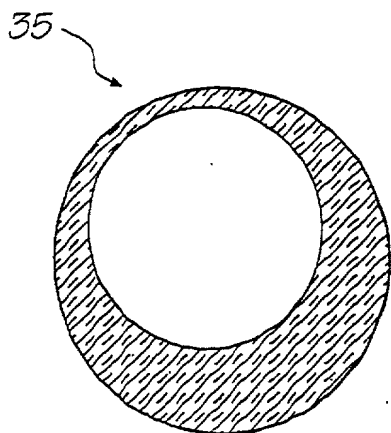


FIG. 8

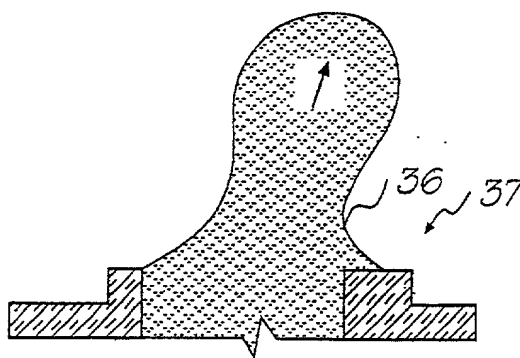


FIG. 9

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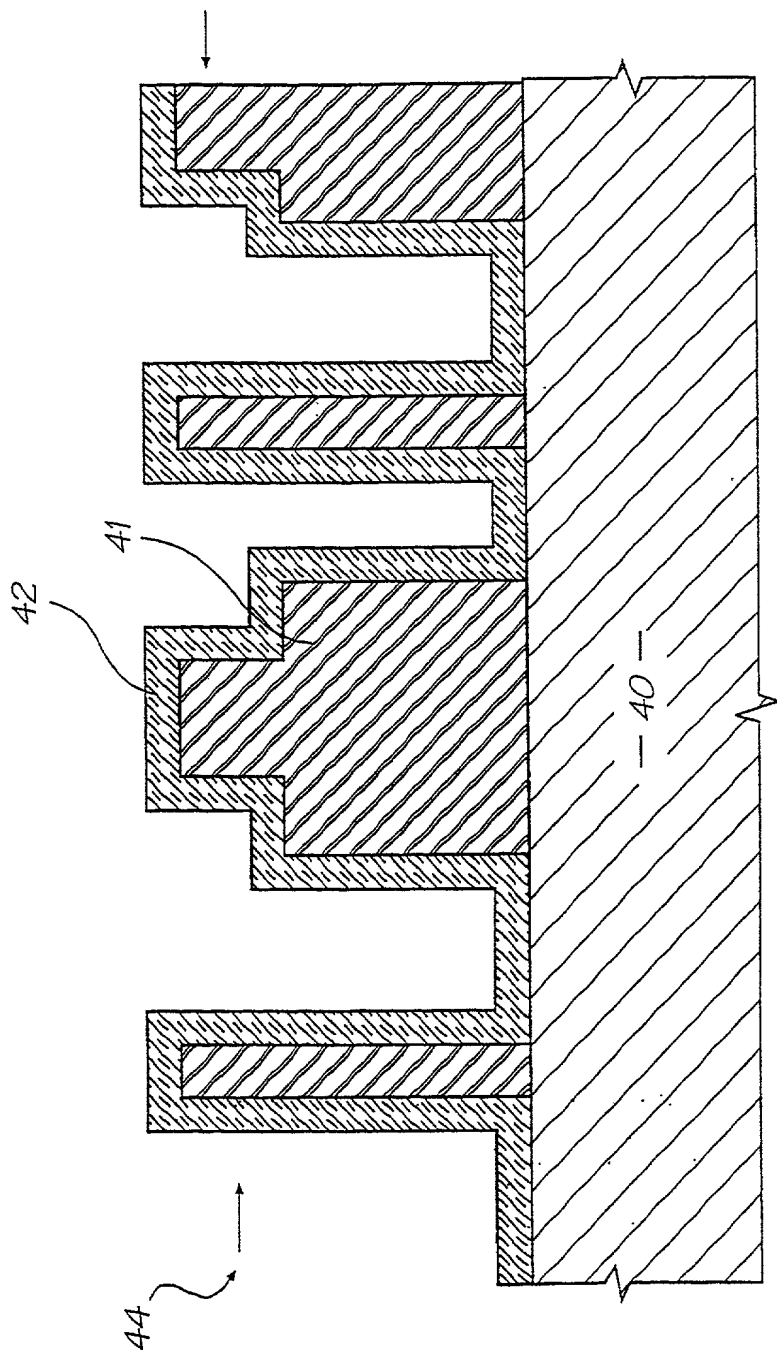


FIG. 10

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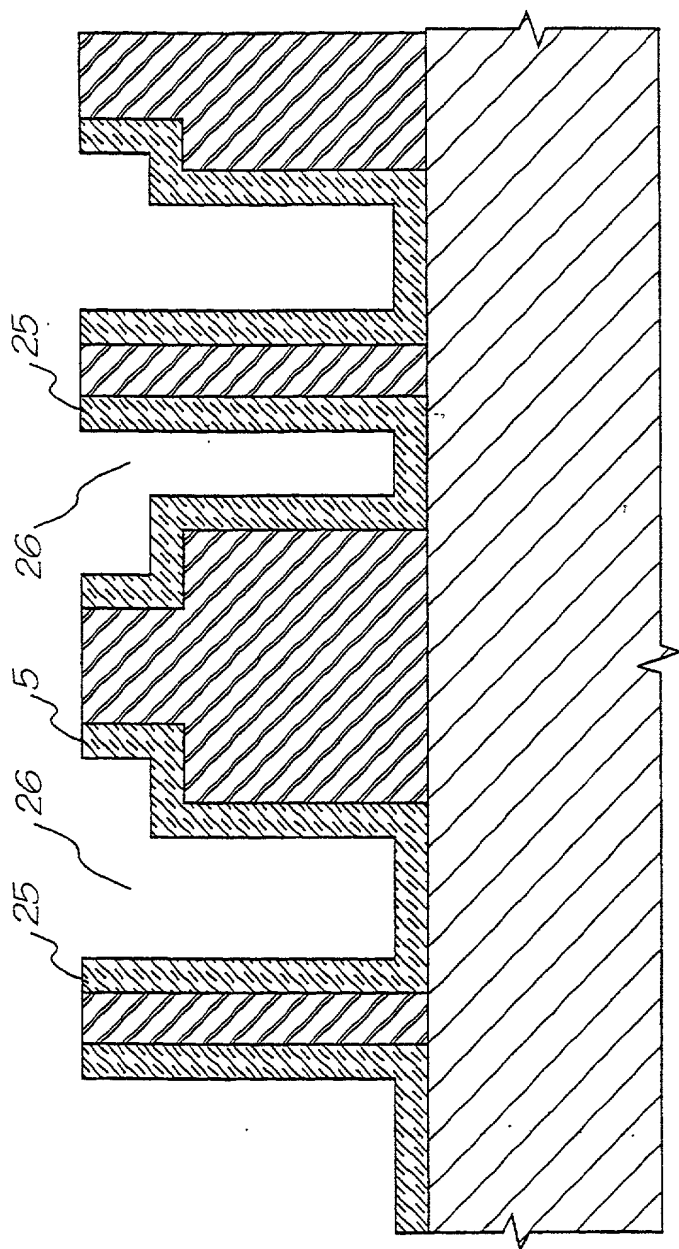


FIG. 11

FIG. 11

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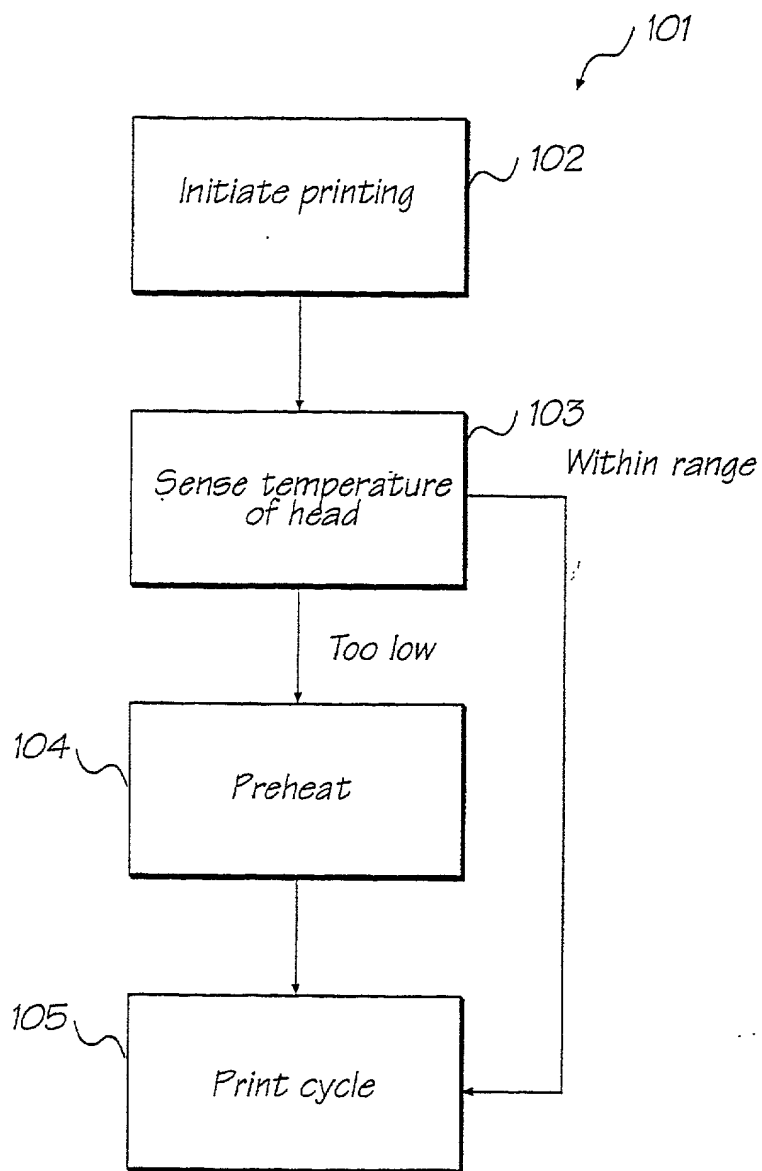


FIG. 12

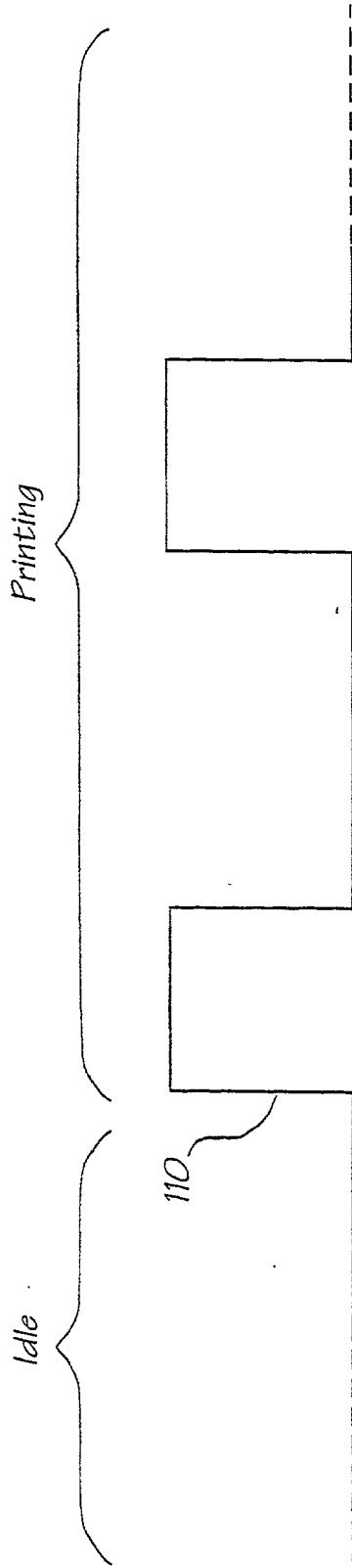


FIG. 13

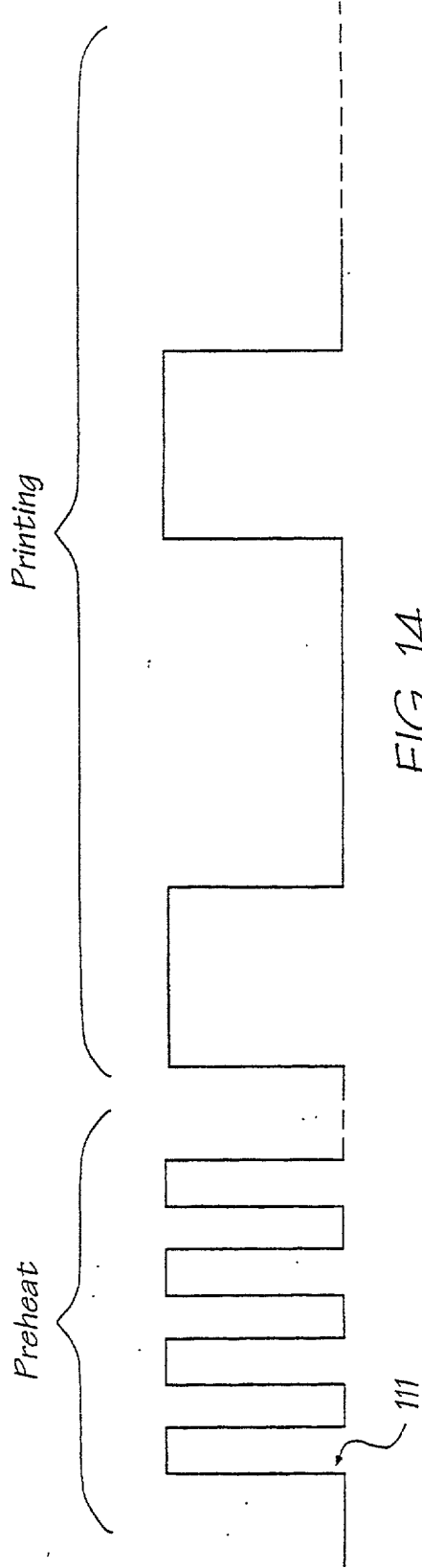


FIG. 14

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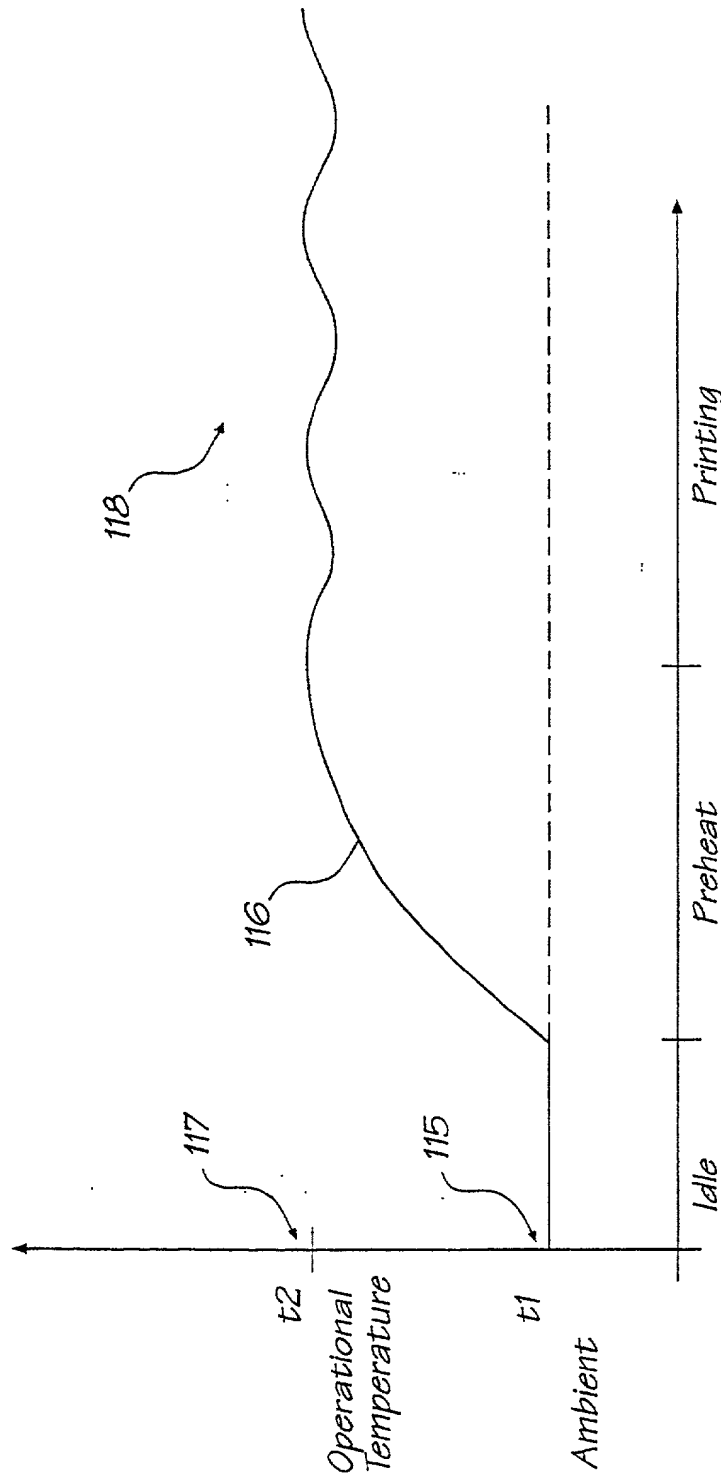


FIG. 15



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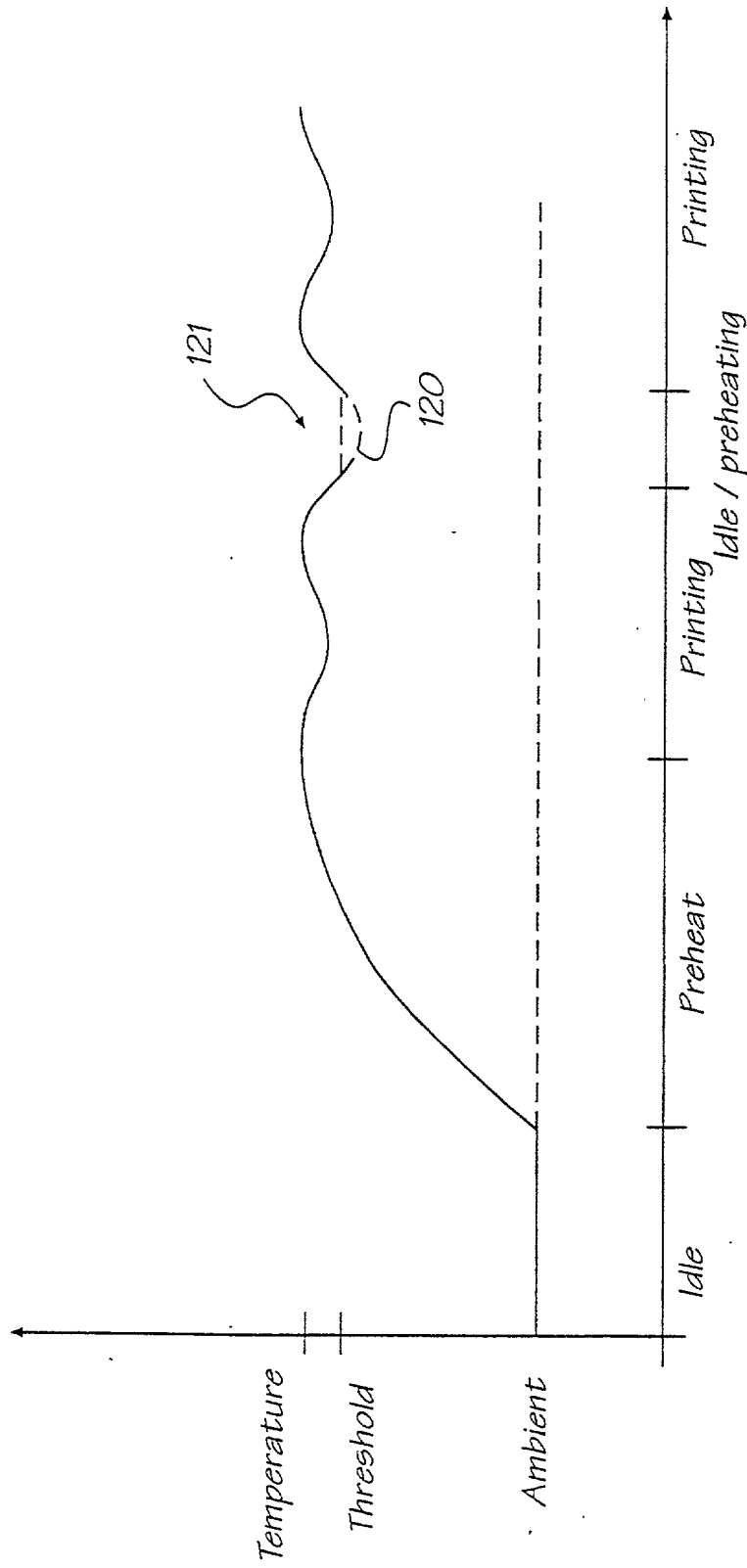


FIG. 16

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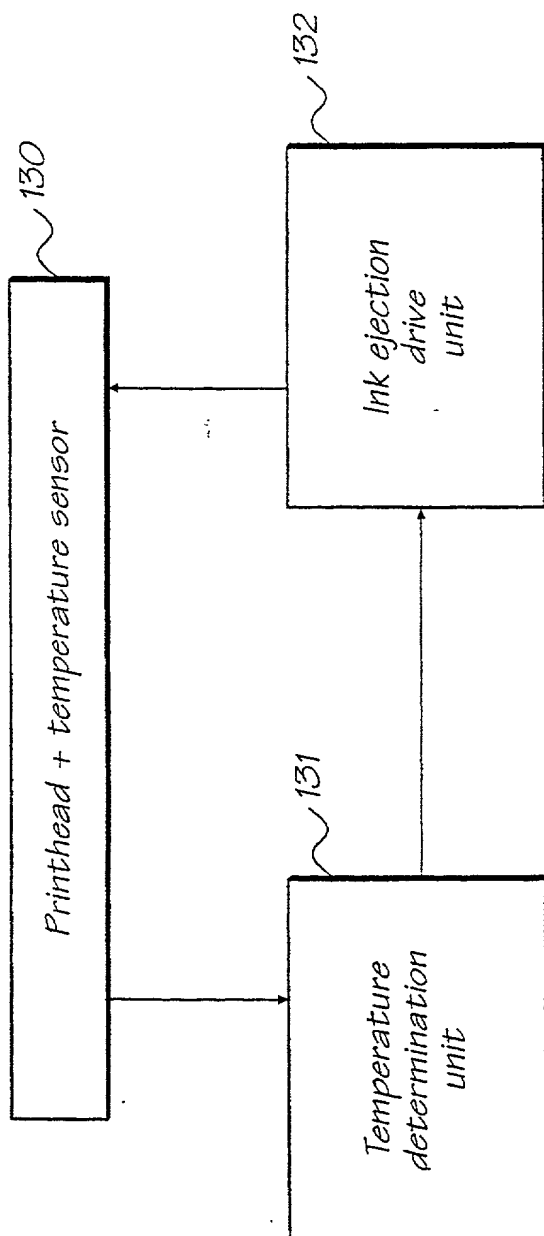


FIG. 17

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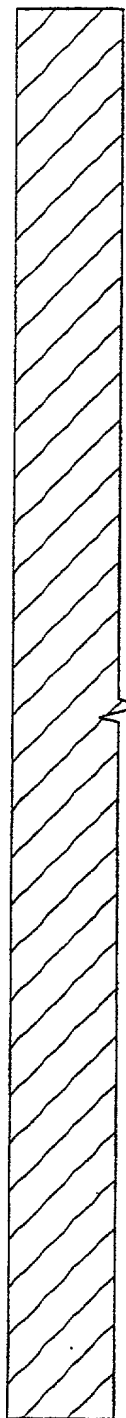
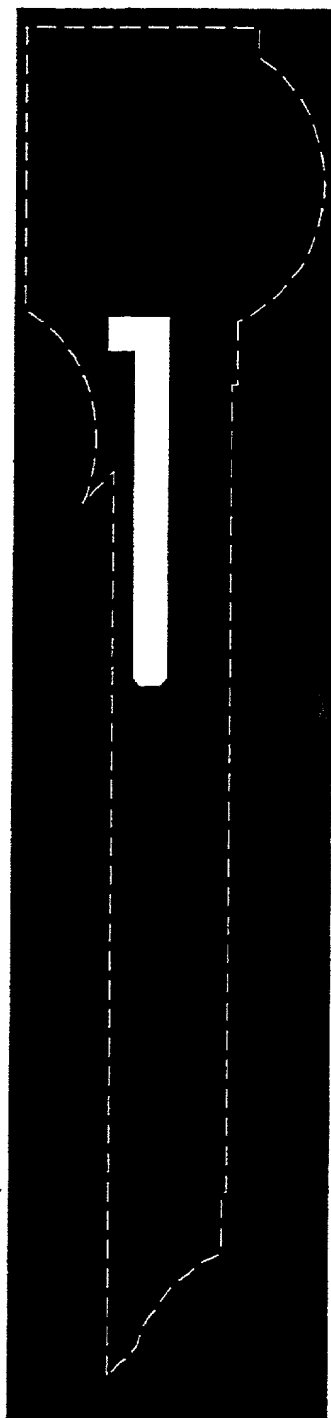


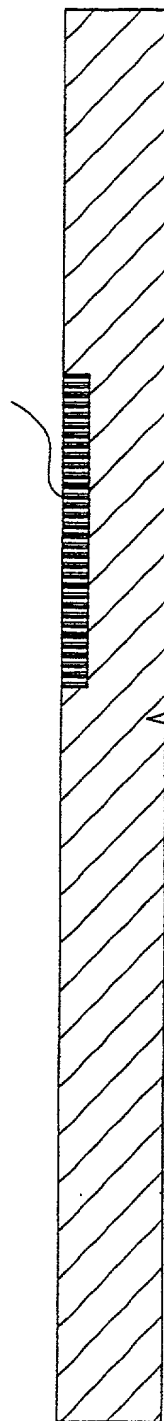
FIG. 18



N-Well mask

FIG. 19

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Implant N-Well

FIG. 20

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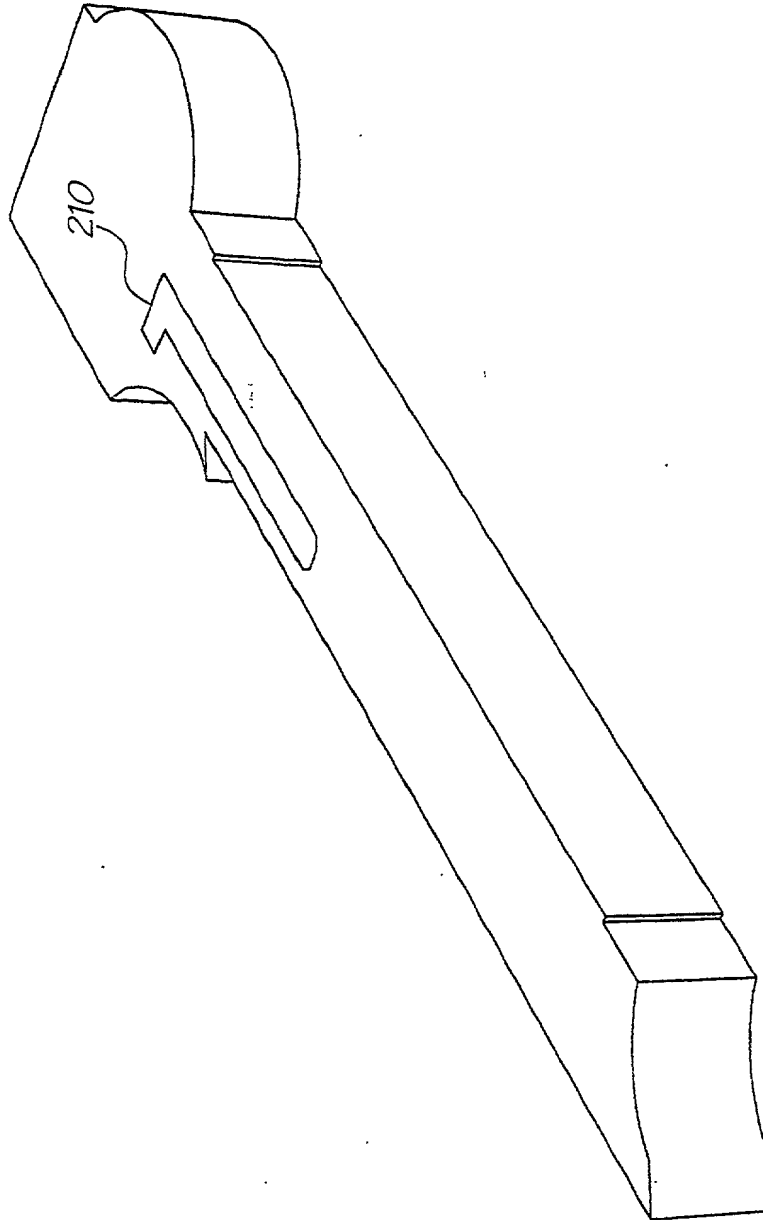
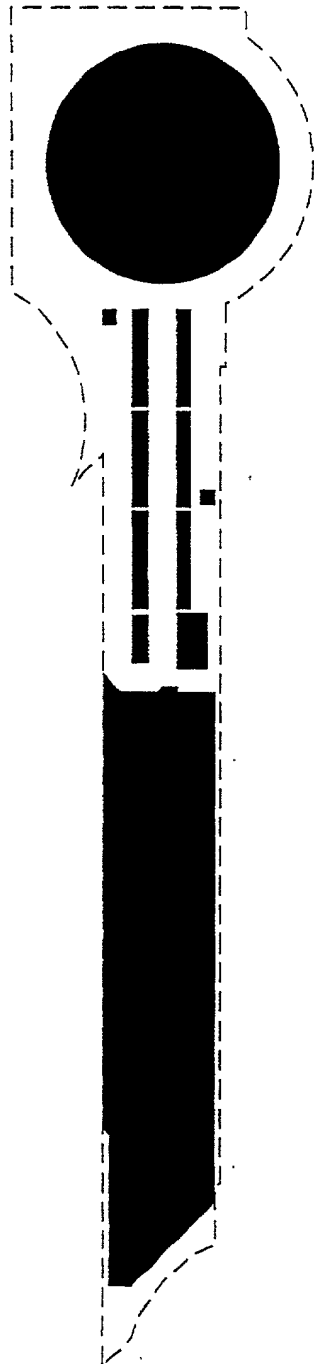
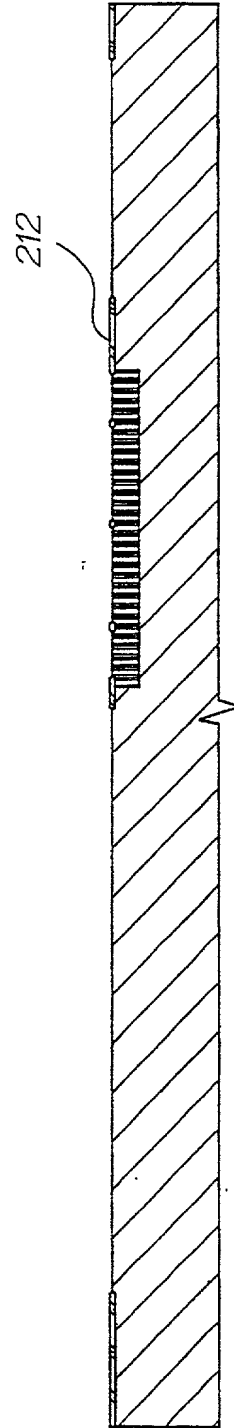


FIG. 21



Active mask

FIG. 22



Grow field oxide

FIG. 23

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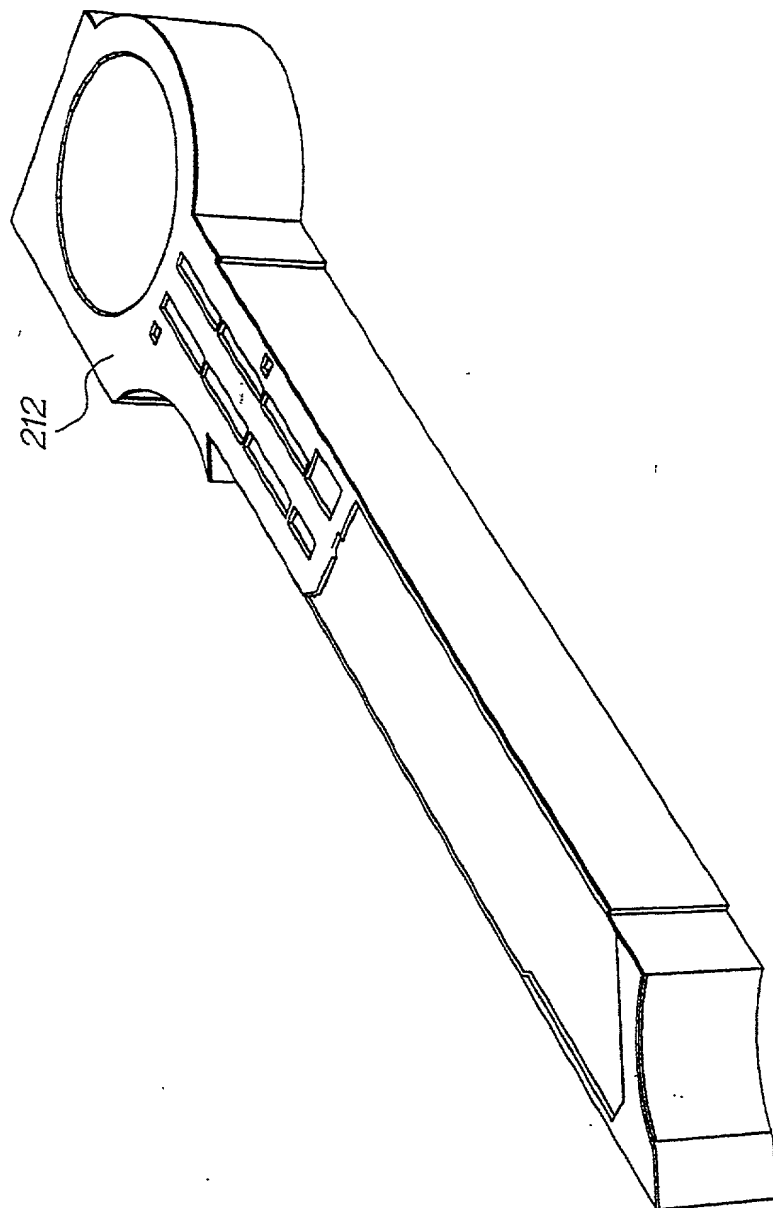
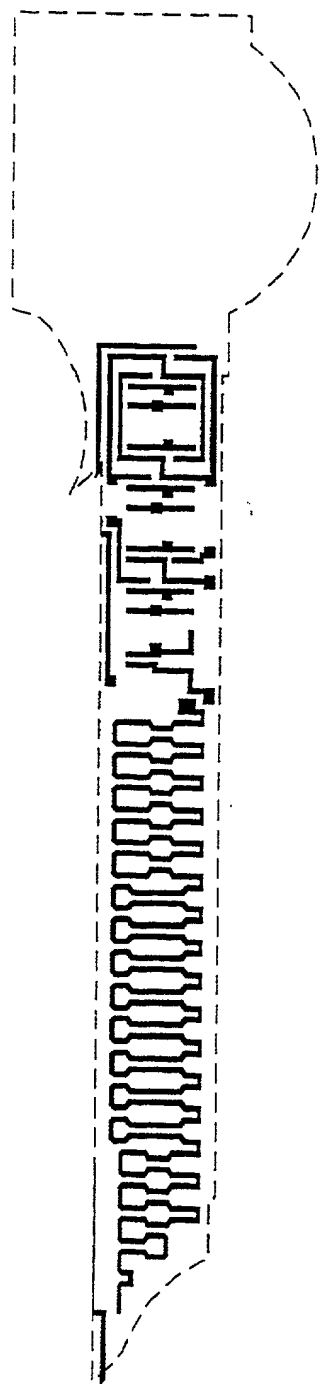


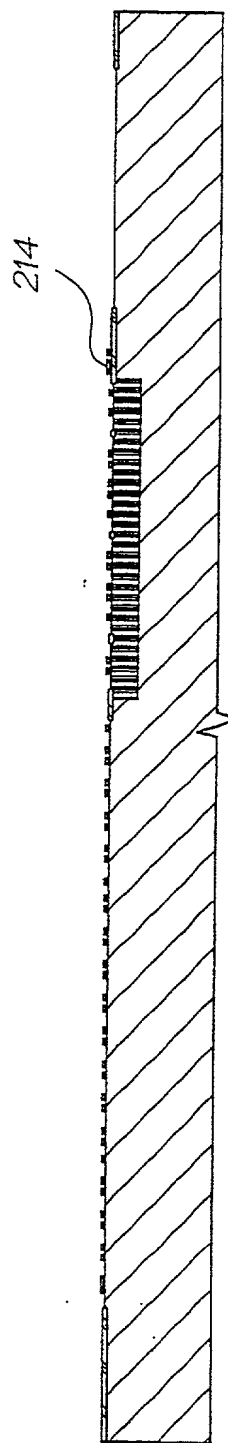
FIG. 24

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*Poly mask*

FIG. 25



*Deposit poly*

FIG. 26

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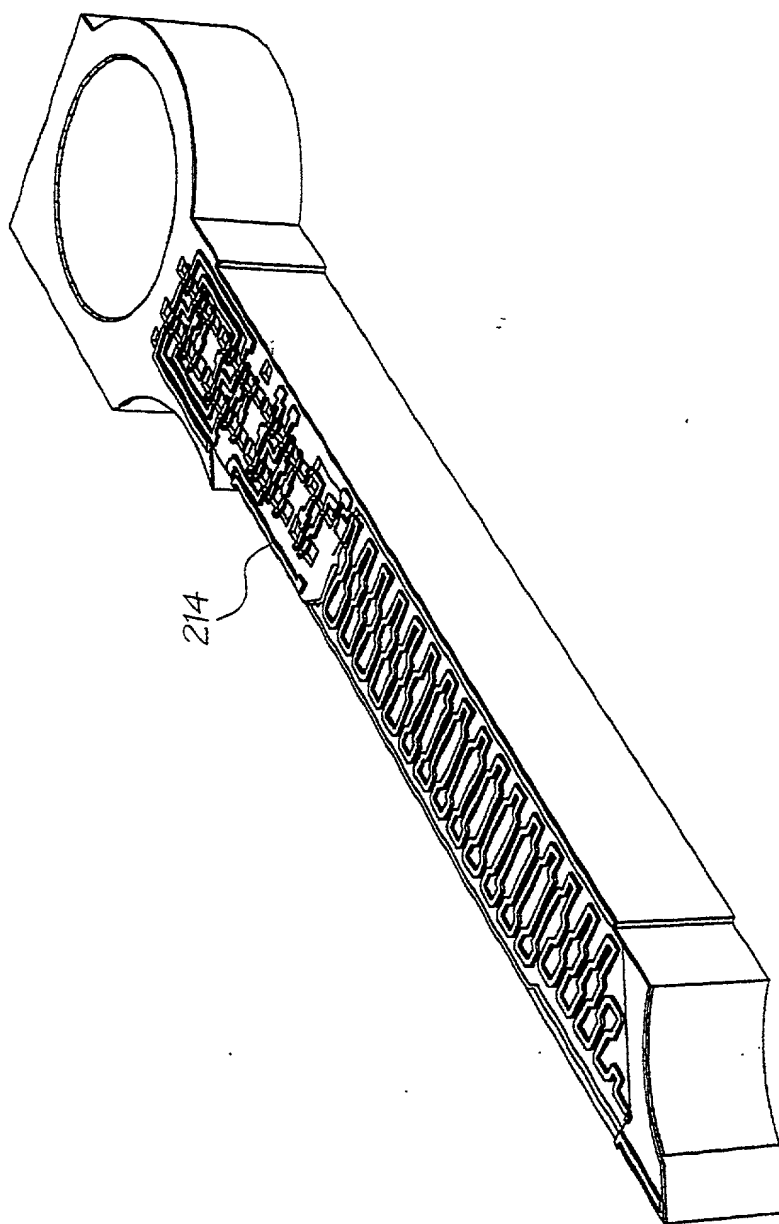


FIG. 27



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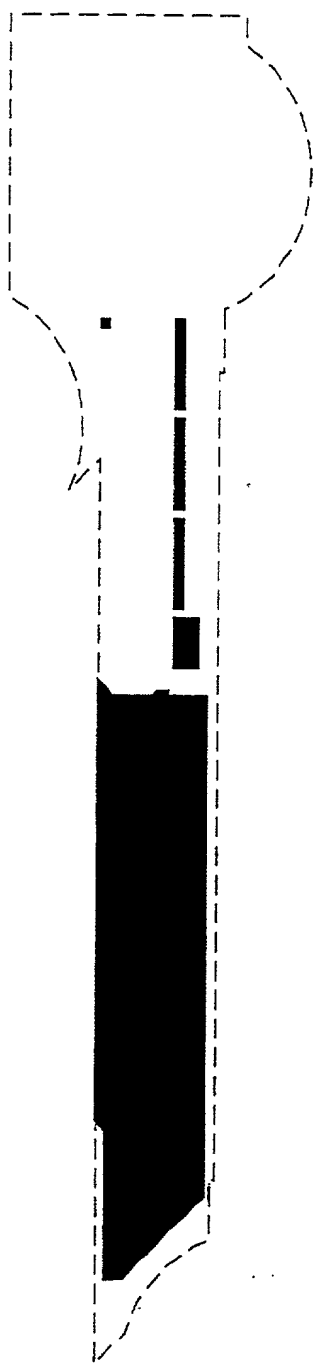


FIG. 28

*n+ mask*

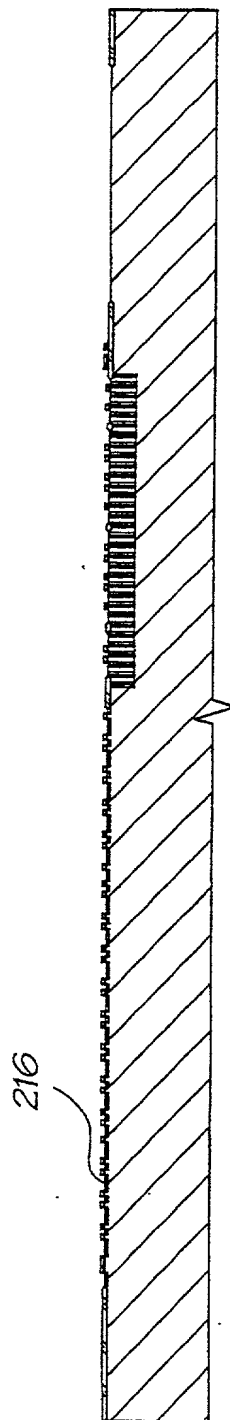


FIG. 29

*n+ implant*

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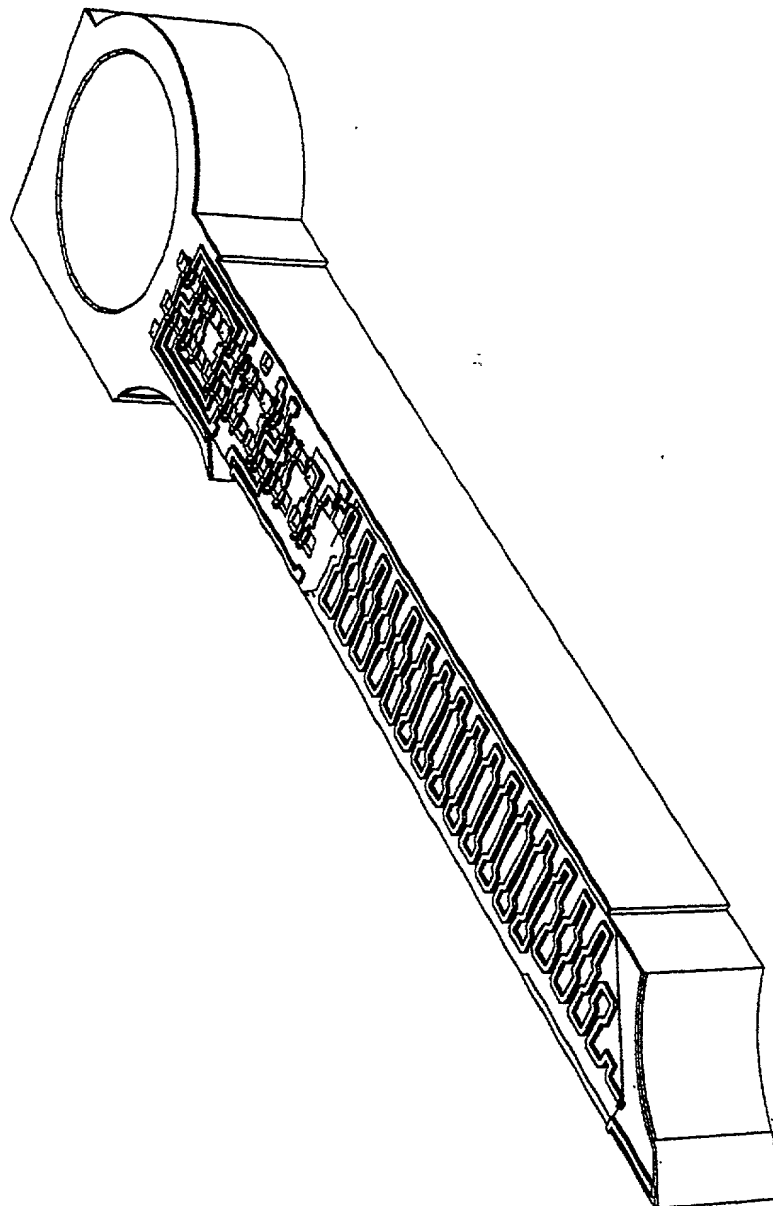


FIG. 30

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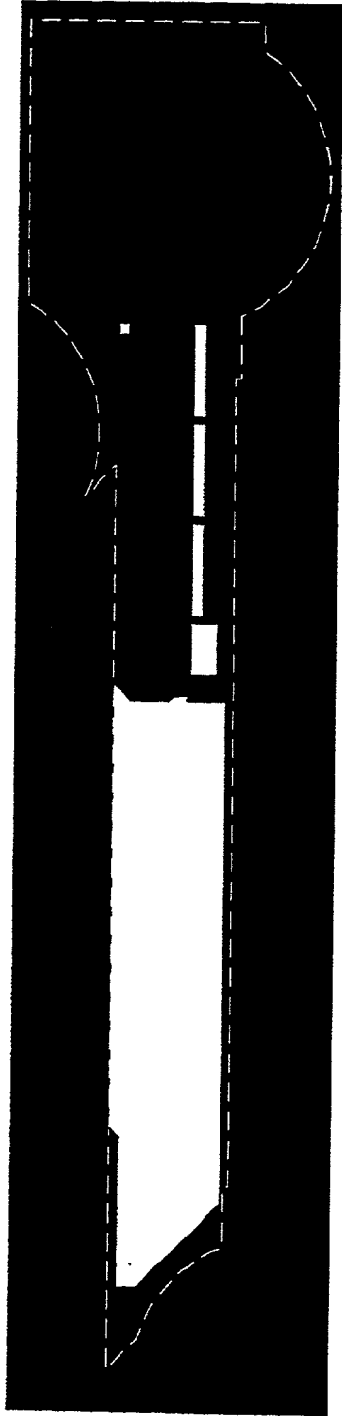


FIG. 31

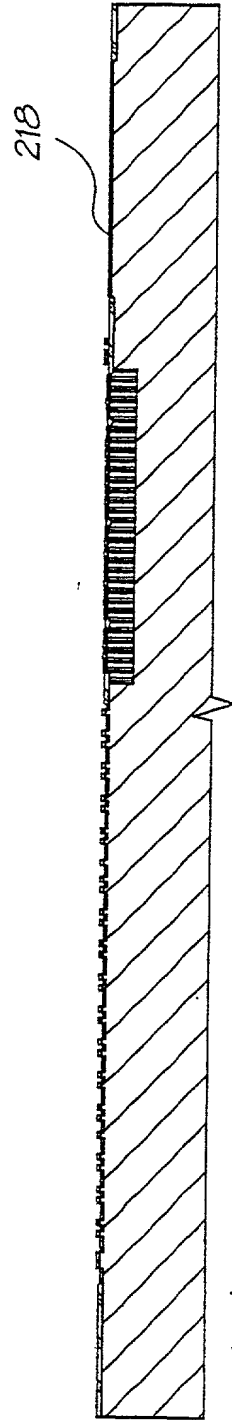


FIG. 32

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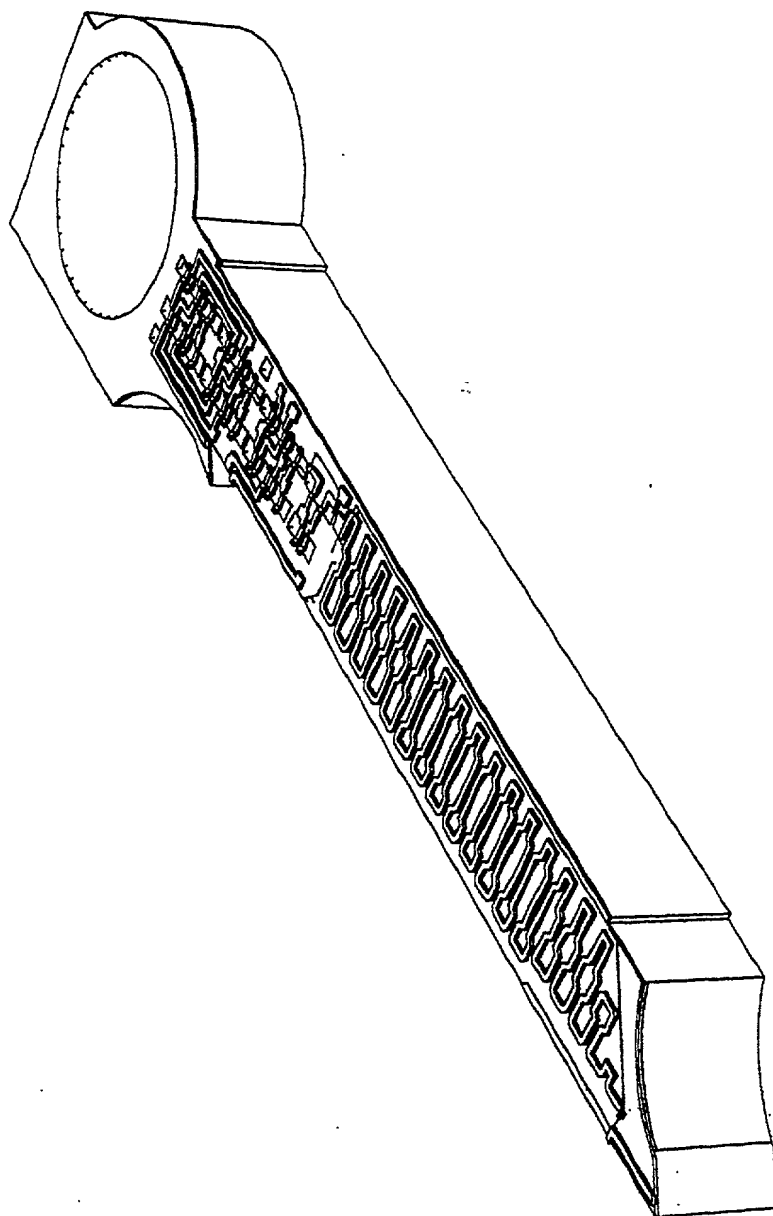
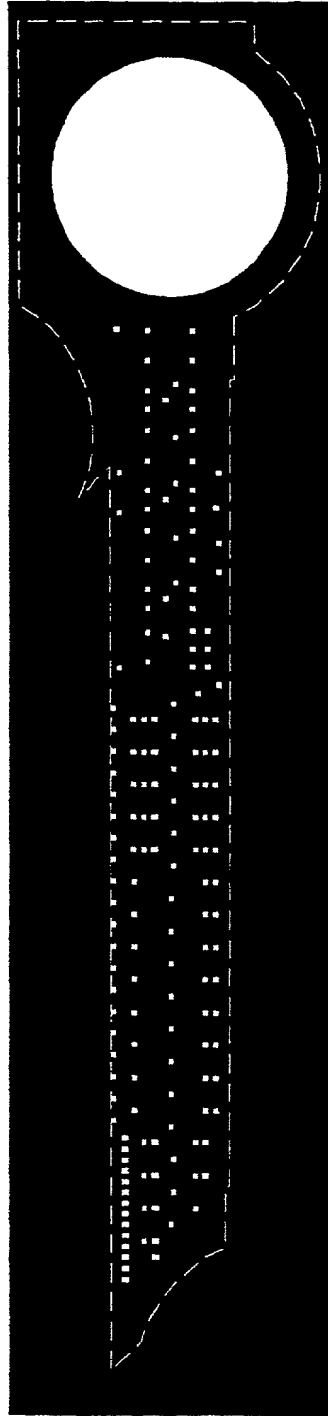


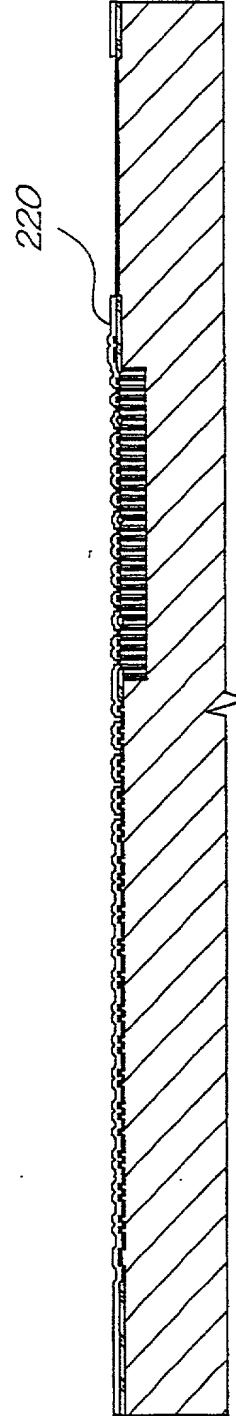
FIG. 33

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*Contacts mask*

*FIG. 34*



*Deposit ILD 1, etch contacts*

*FIG. 35*

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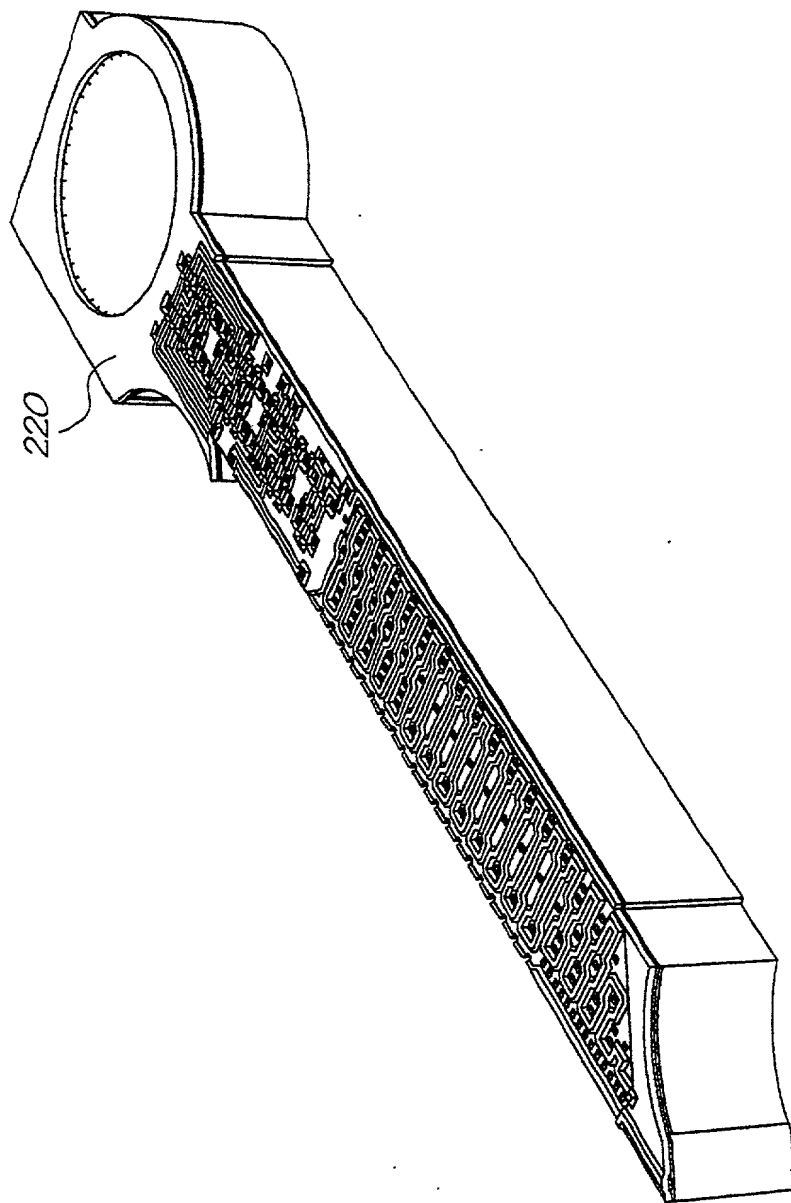
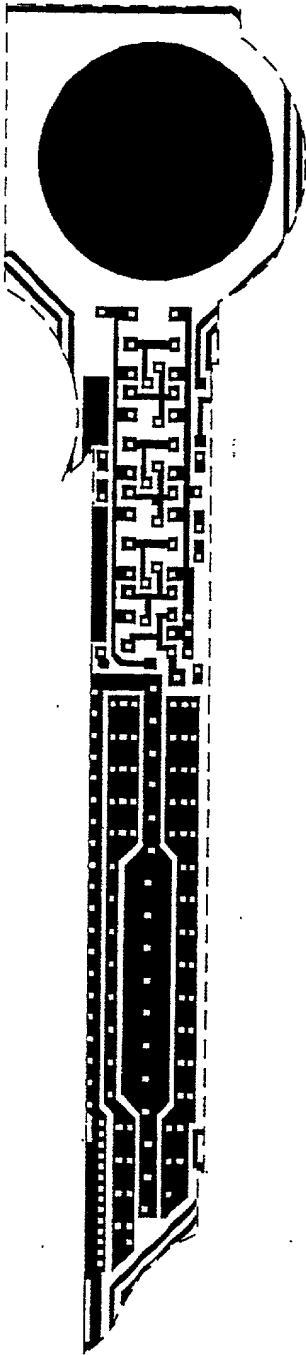
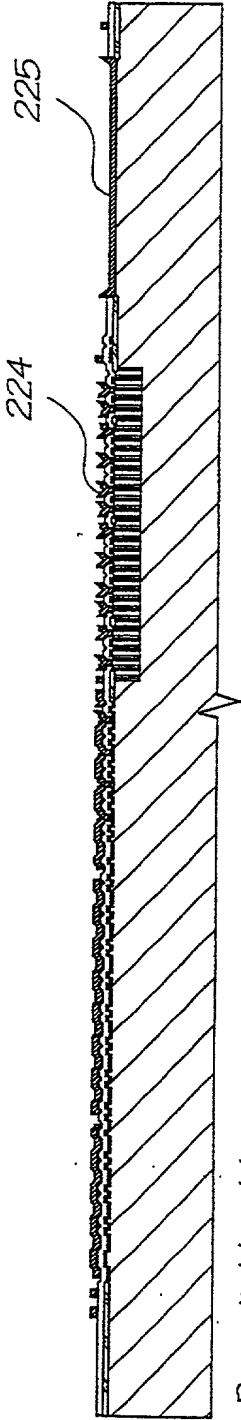


FIG. 36



Metal 1 mask

FIG. 37



Deposit Metal 1

FIG. 38

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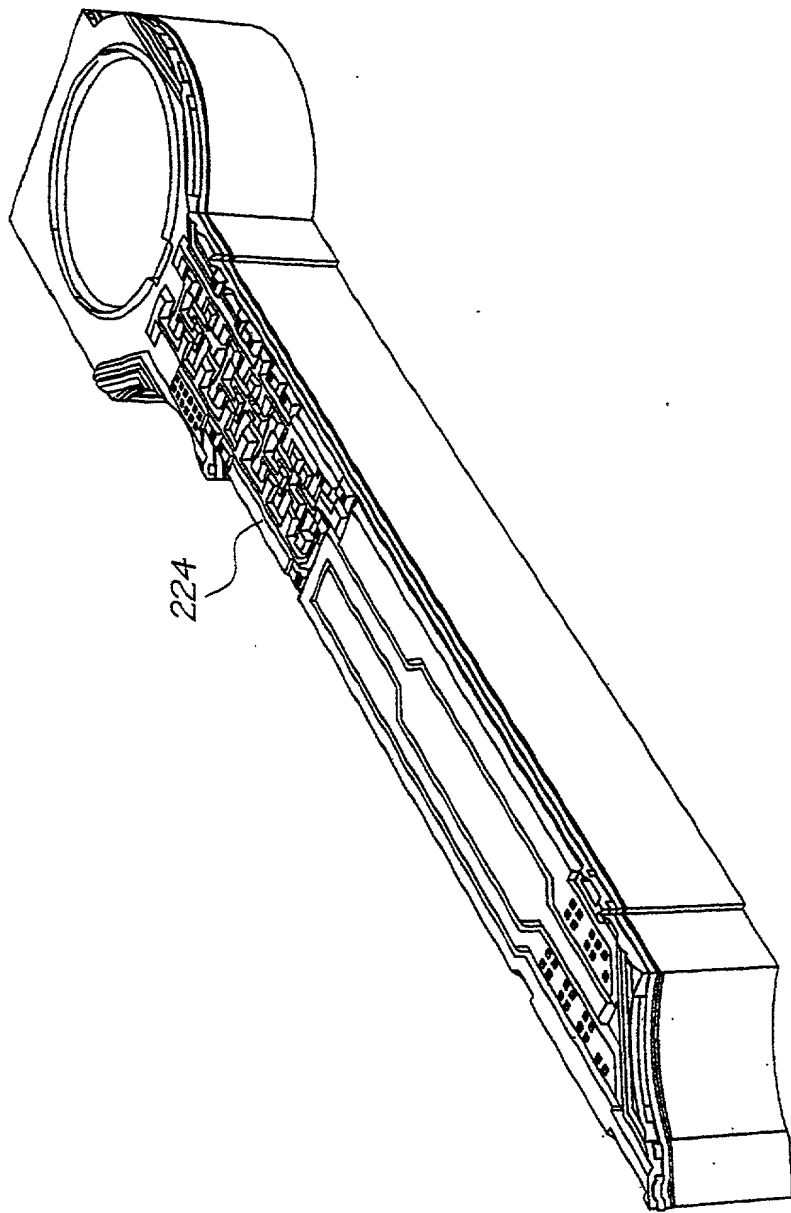


FIG. 39



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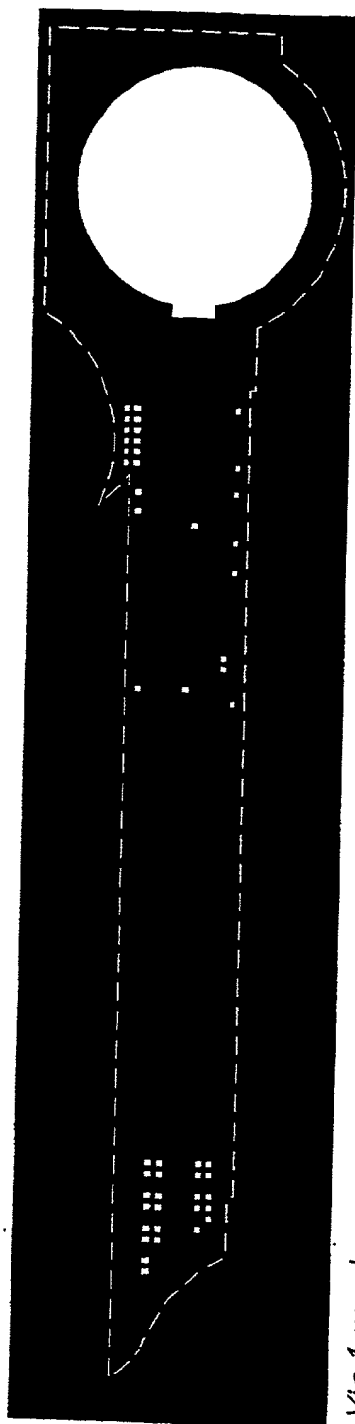


FIG. 40

Via 1 mask

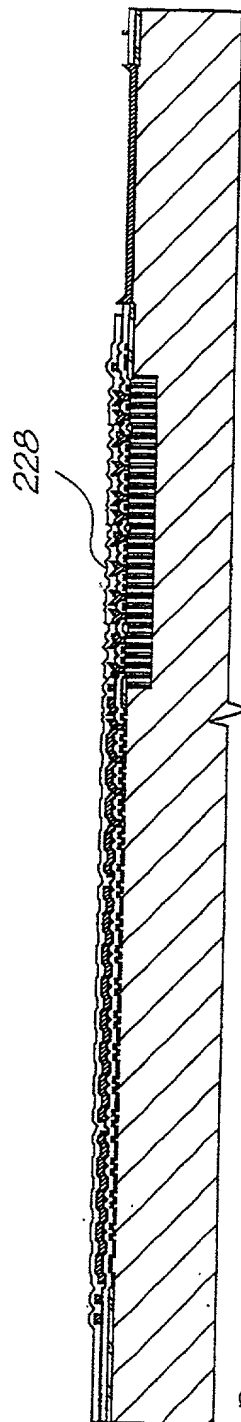
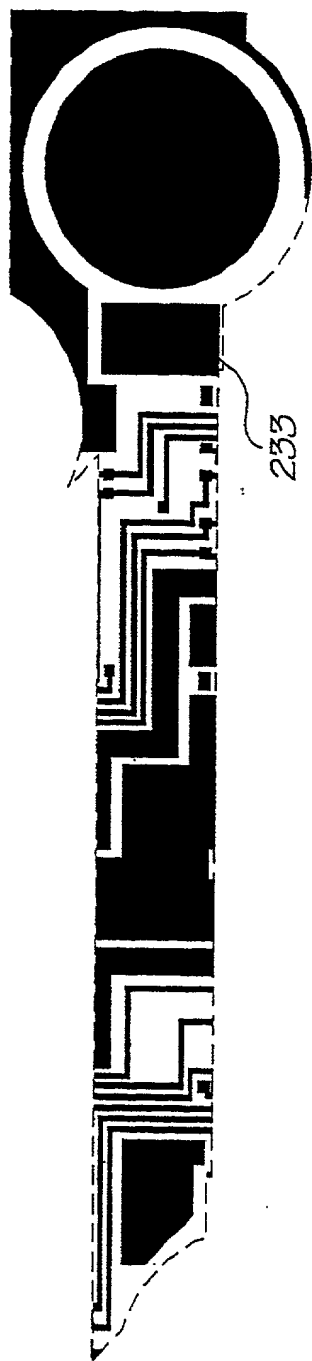


FIG. 41

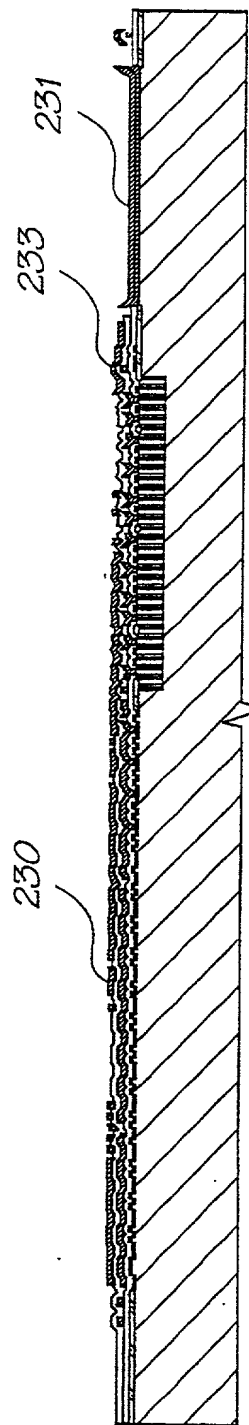
Deposit ILD 2, etch vias

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Metal 2 mask

FIG. 42



Deposit metal 2

FIG. 43

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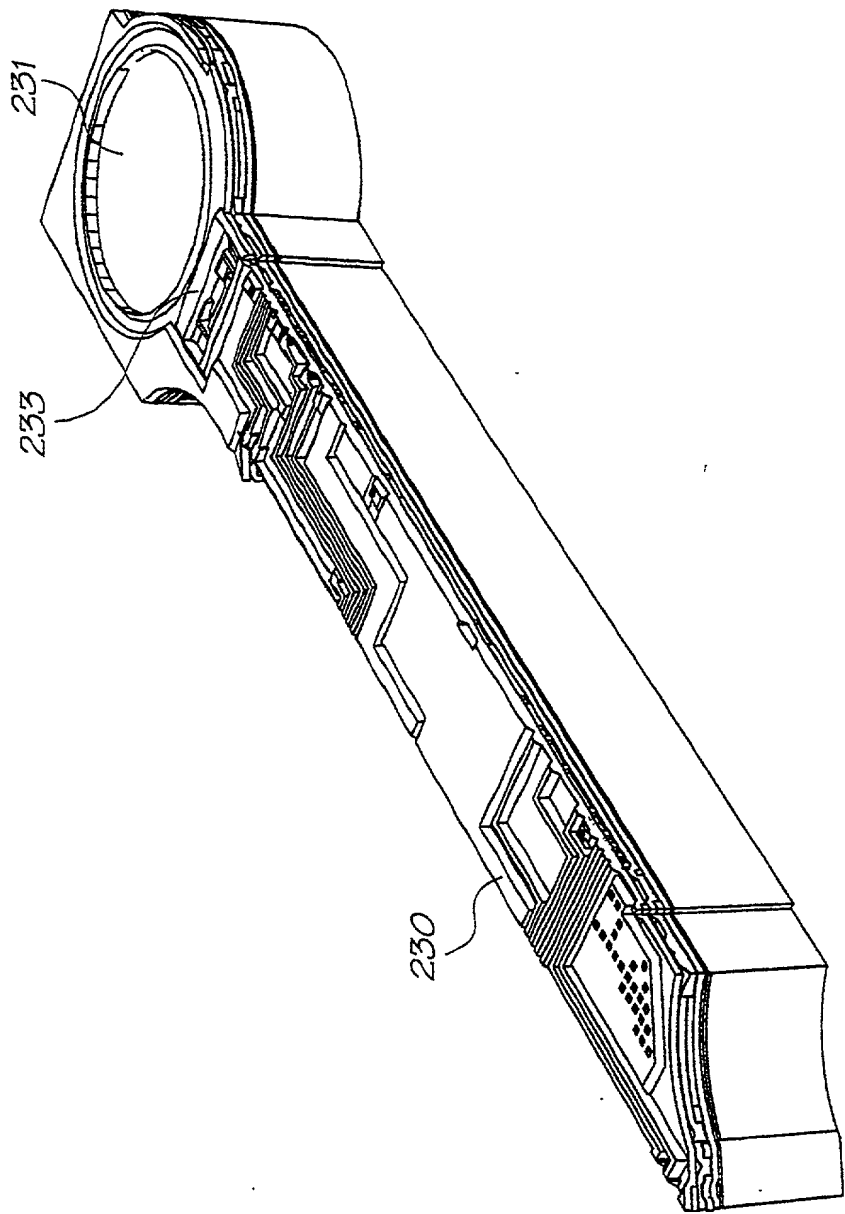
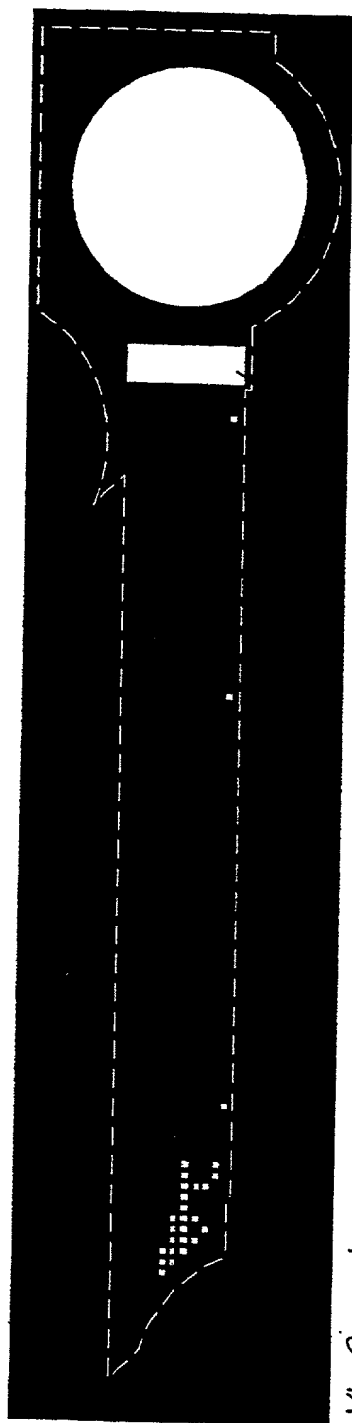


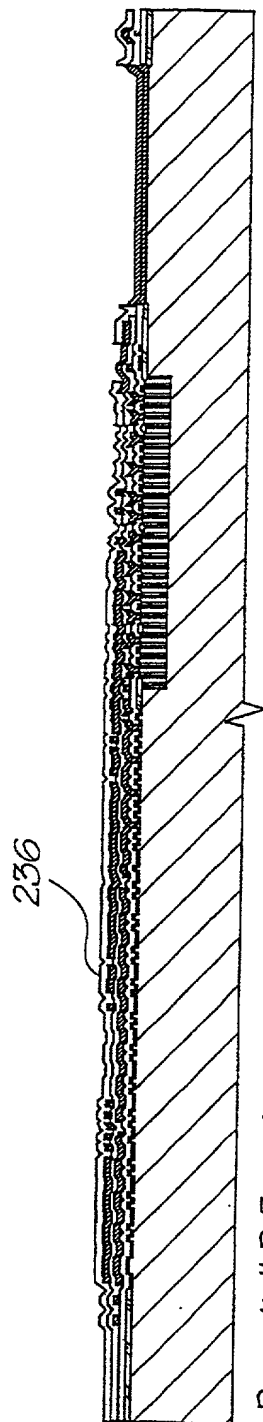
FIG. 44

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Via 2 mask :

FIG. 45

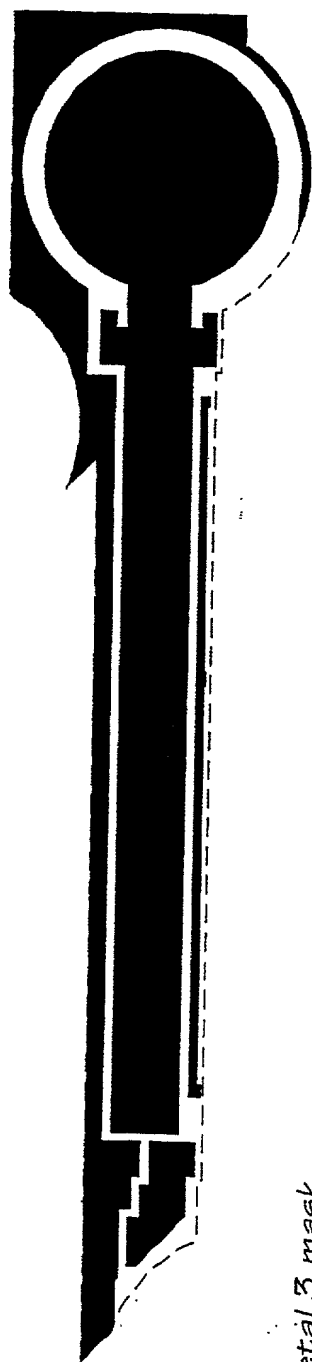


Deposit ILD 3, etch vias

FIG. 46

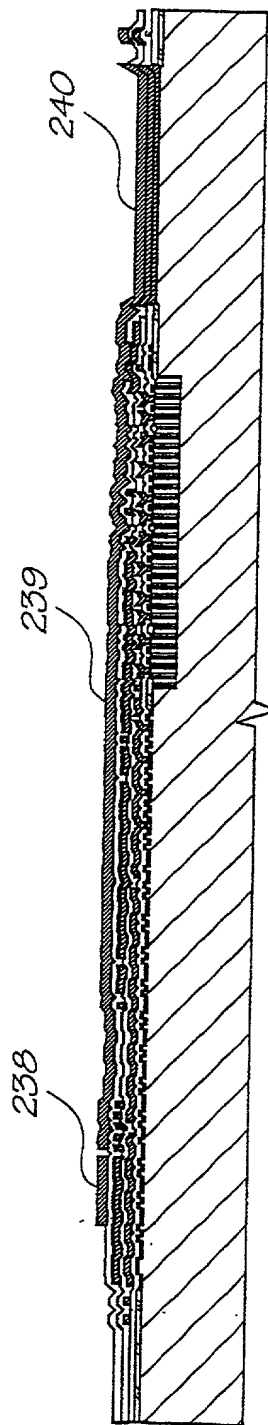
FIG. 45

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Metal 3 mask

FIG. 47



Deposit metal 3

FIG. 48

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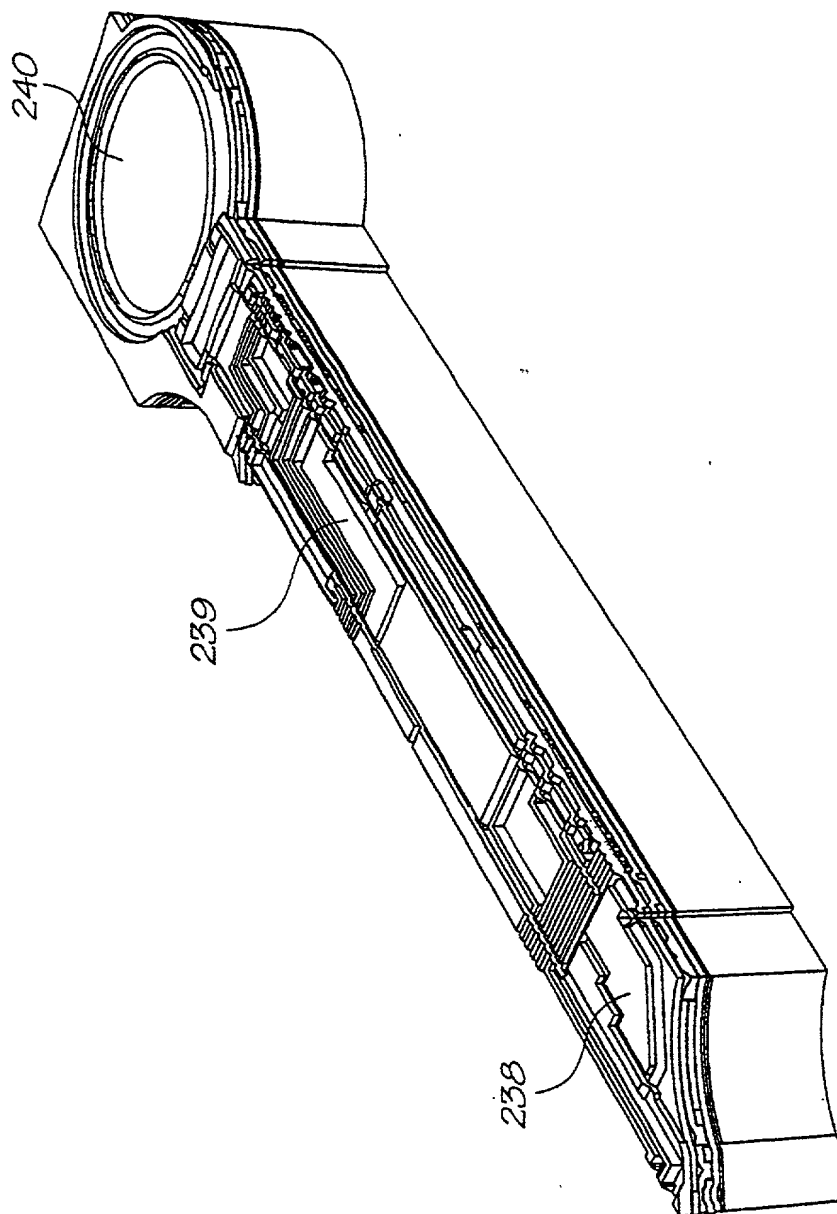
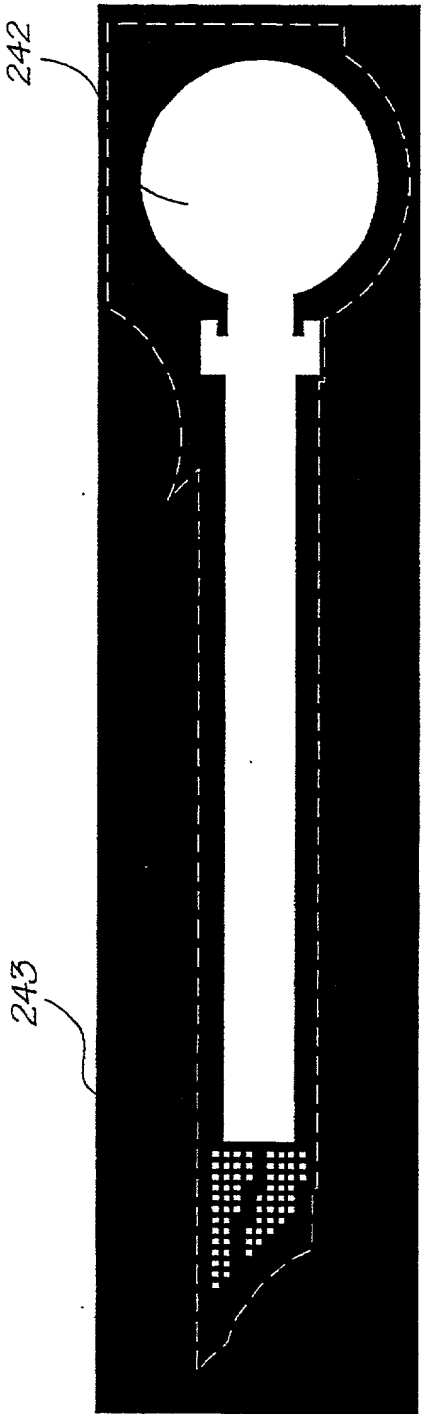


FIG. 49



Via 3 / Passivation mask

FIG. 50

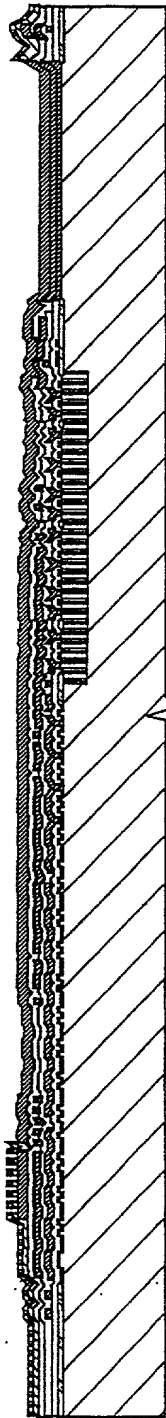


FIG. 51

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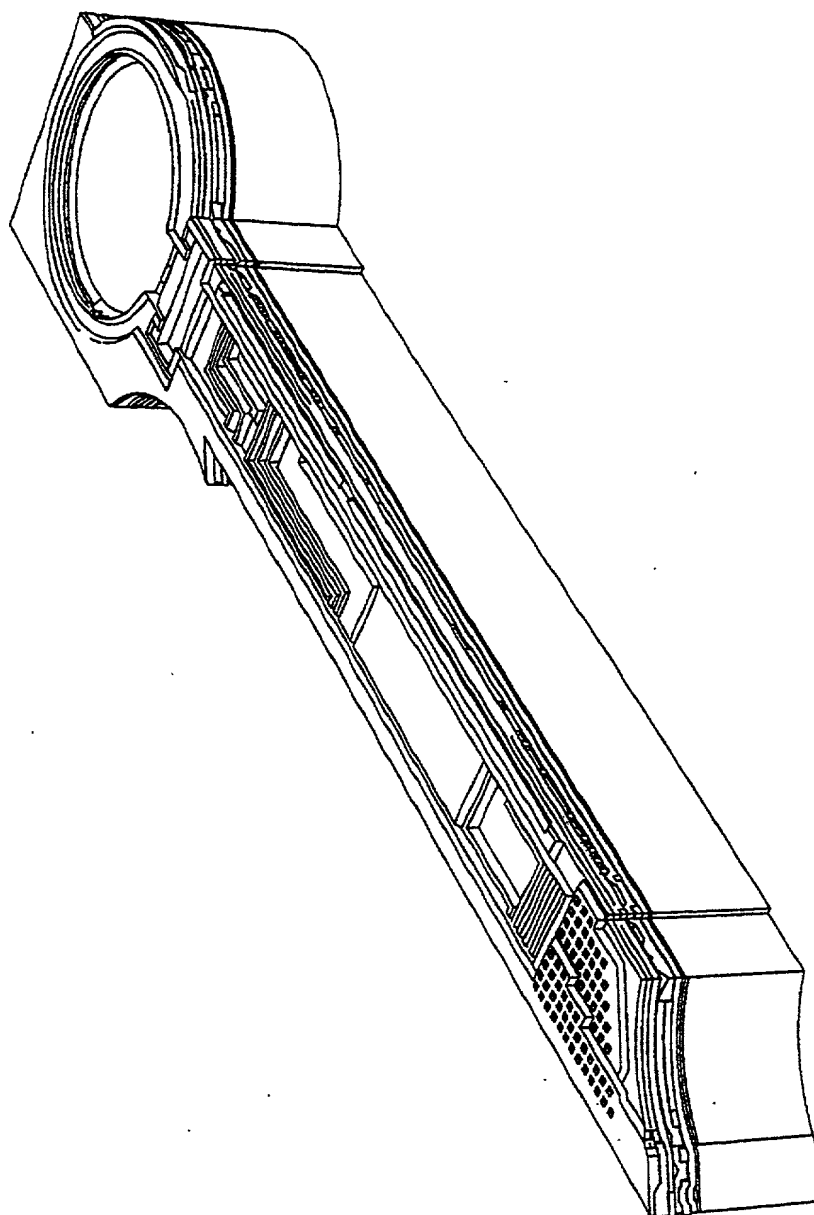
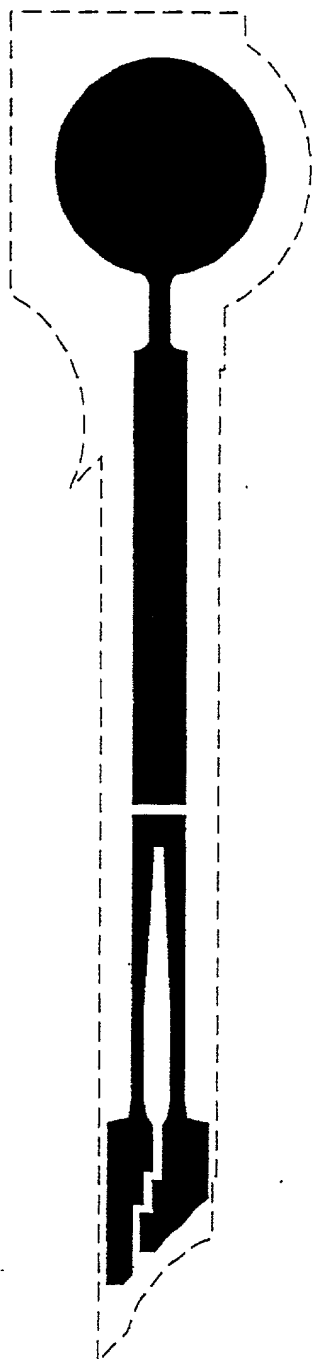


FIG. 52

FIG. 52

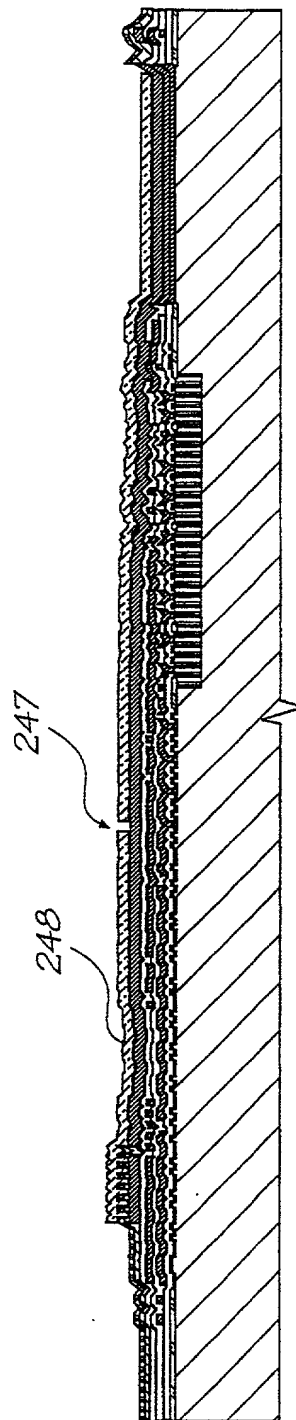


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Heater mask

FIG. 53



Deposit heater TiN

FIG. 54

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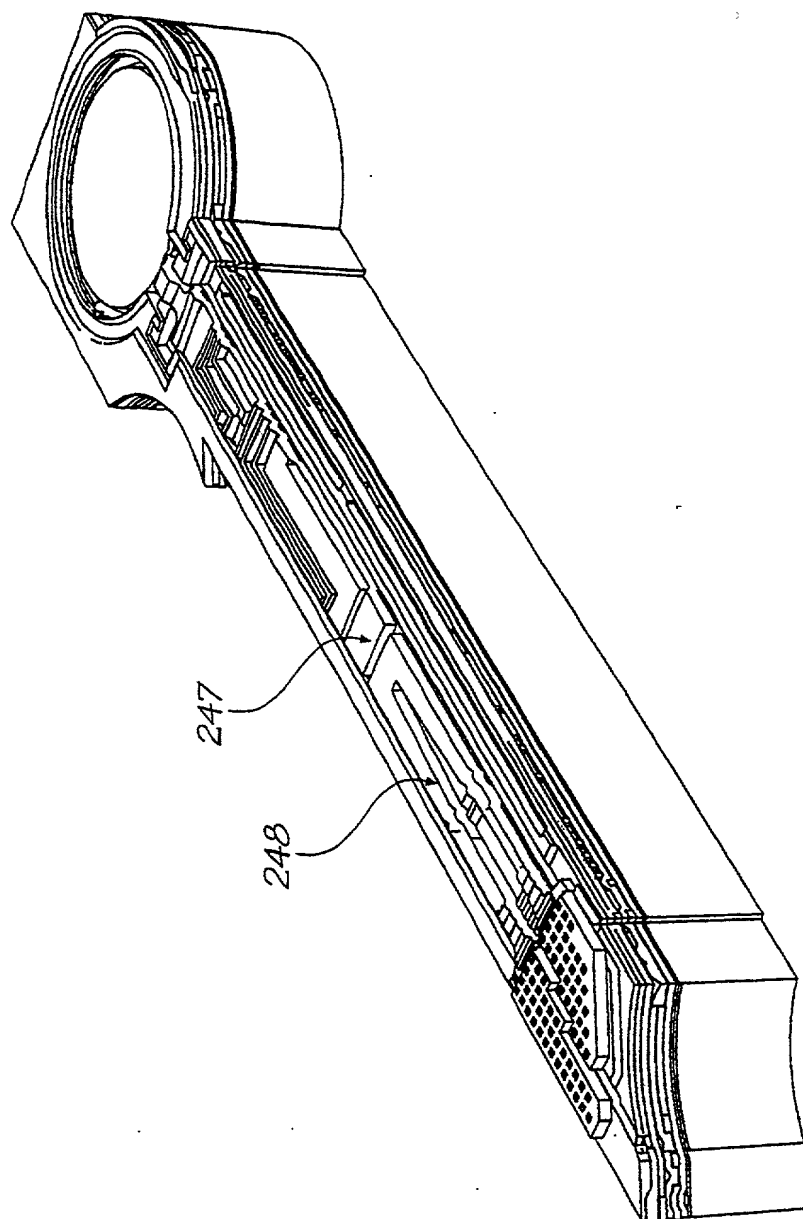


FIG. 55

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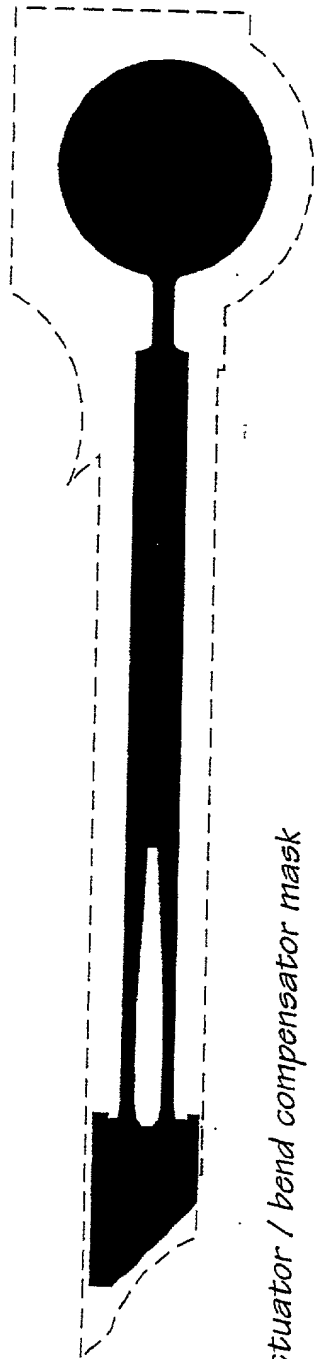


FIG. 56

Actuator / bend compensator mask

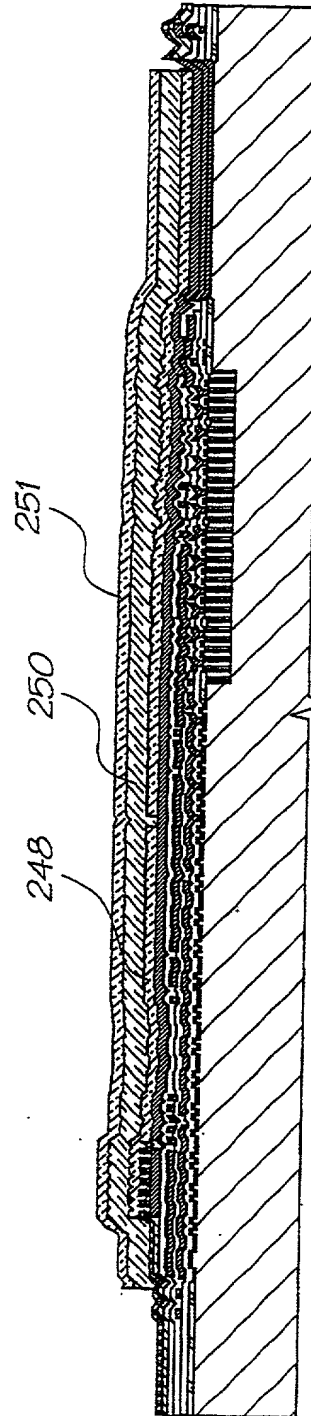


FIG. 57

Deposit actuator glass and bend compensator TiN, etch together

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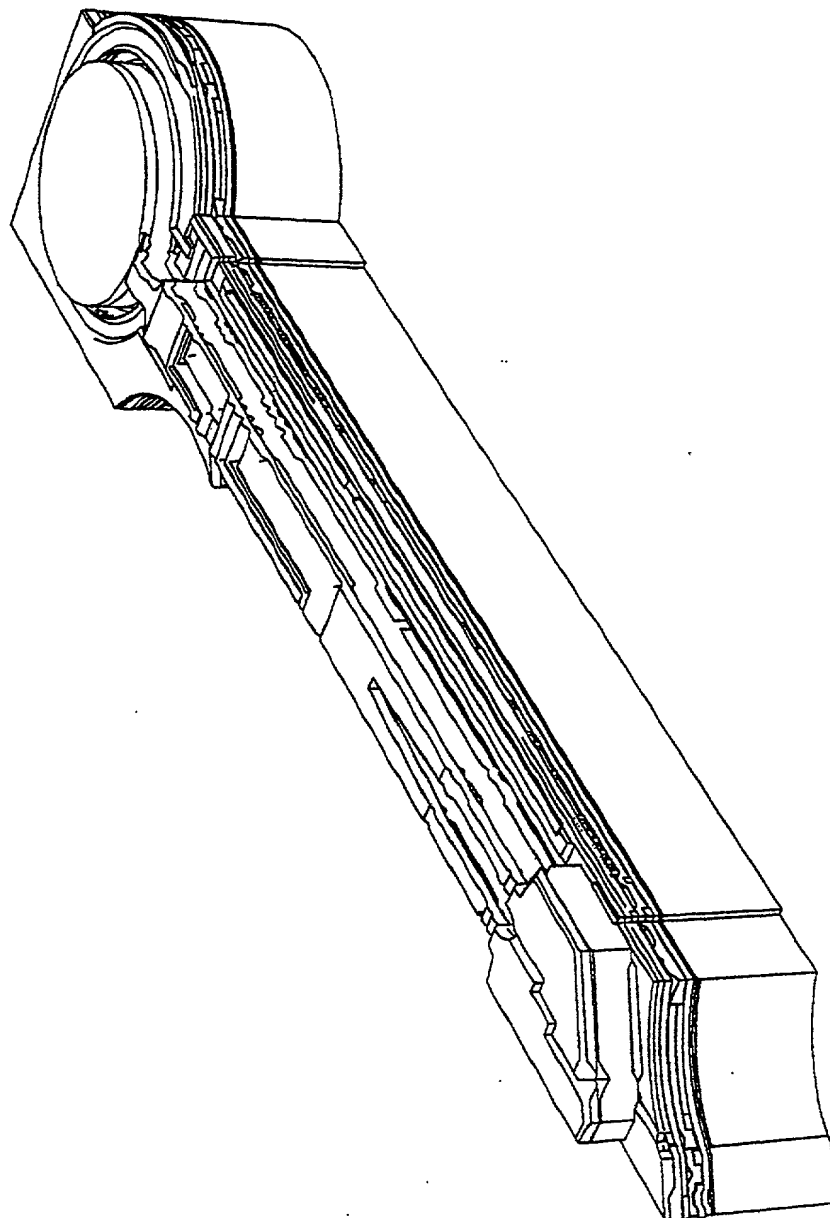
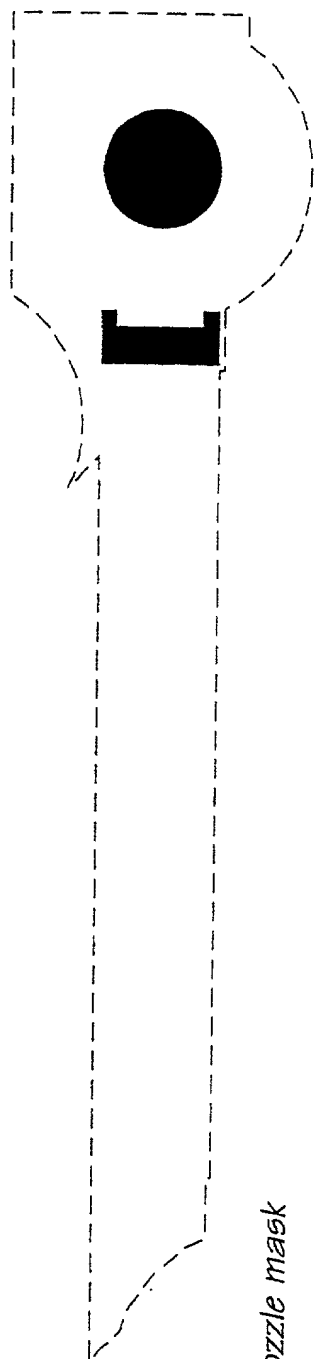


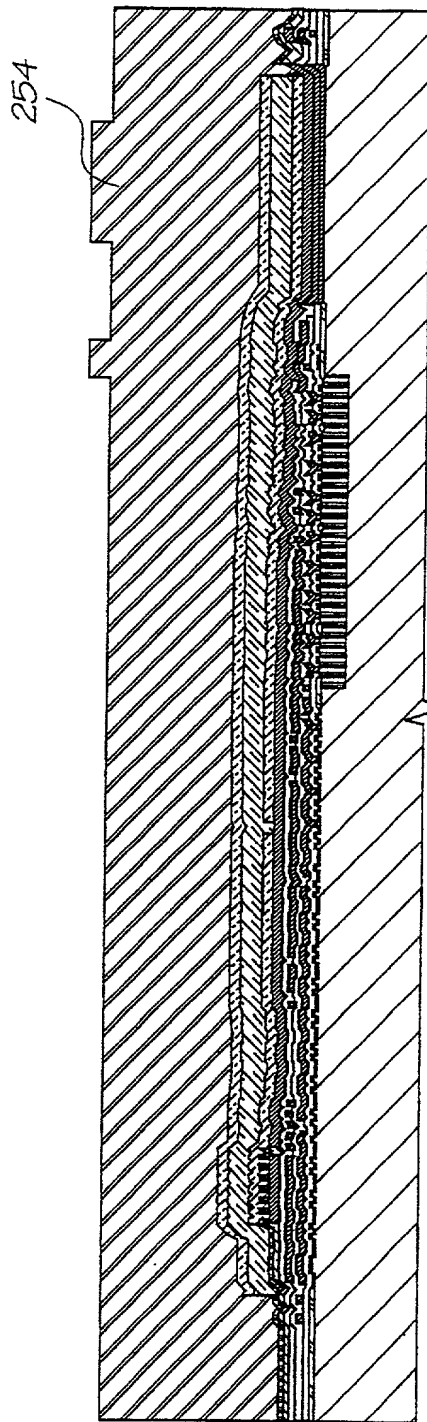
FIG. 58

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Nozzle mask

FIG. 59



Deposit sacrificial layer, etch nozzles

FIG. 60

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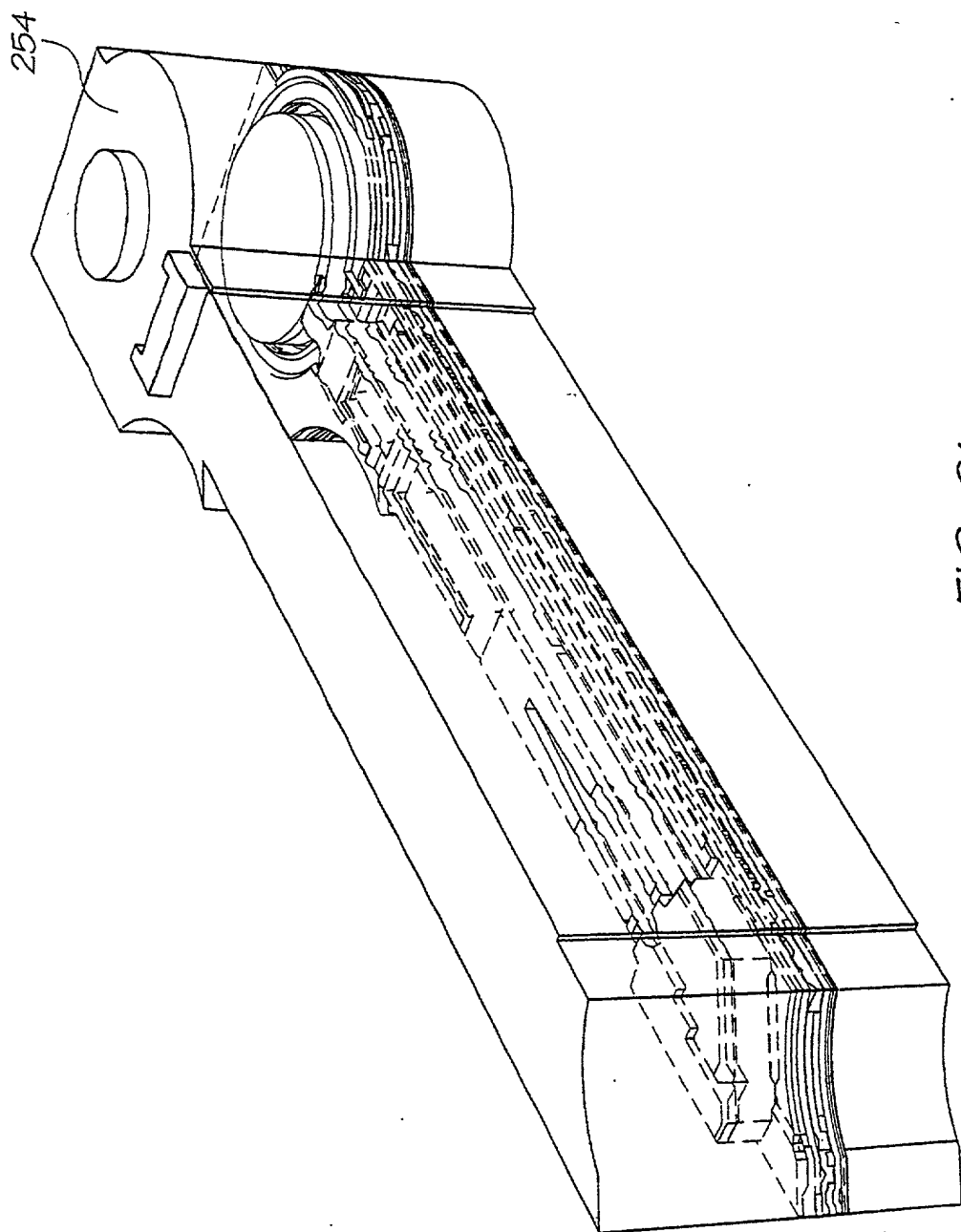
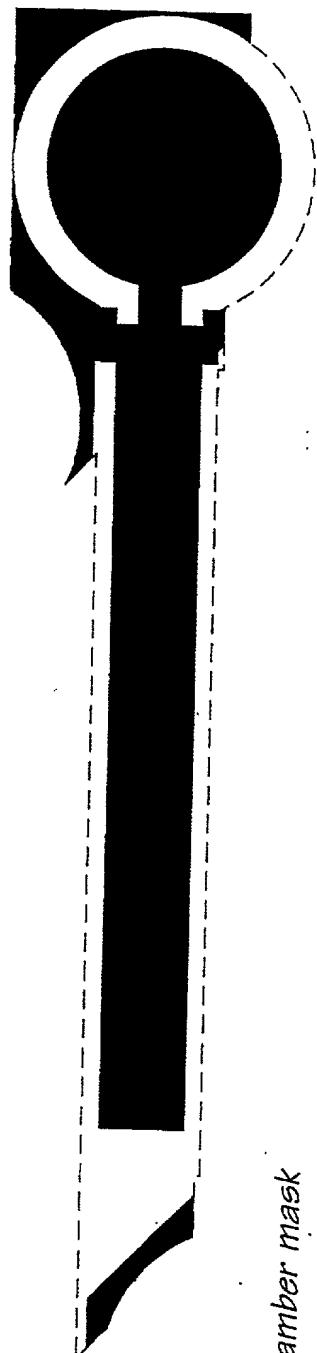


FIG. 61

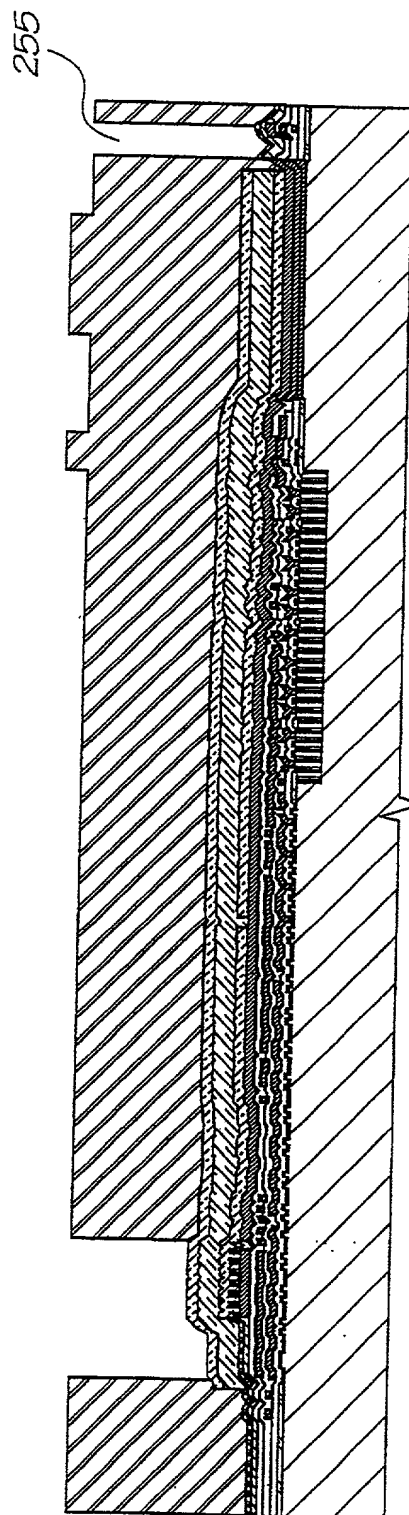
FIG. 61

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Chamber mask

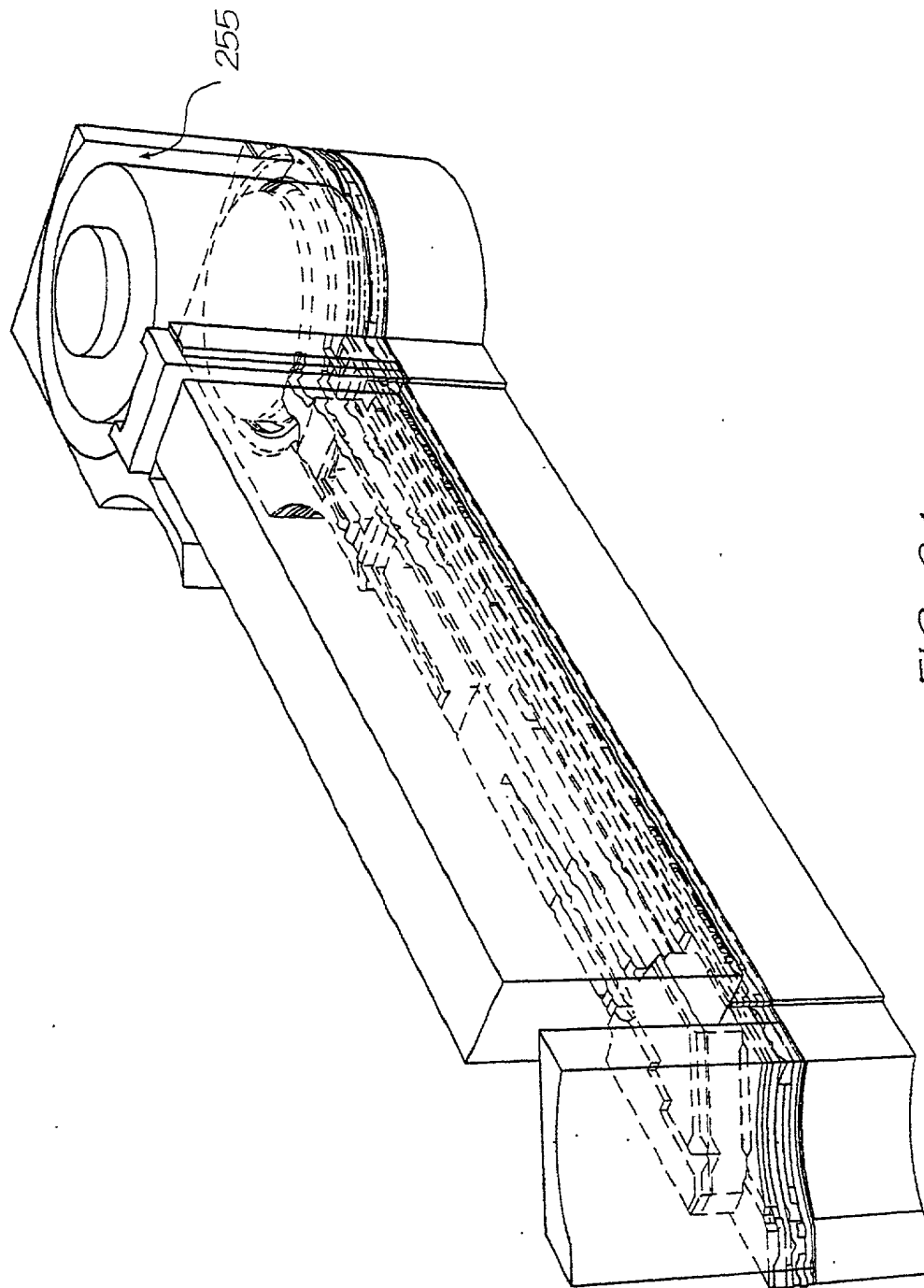
FIG. 62



Etch chambers in sacrificial layer

FIG. 63

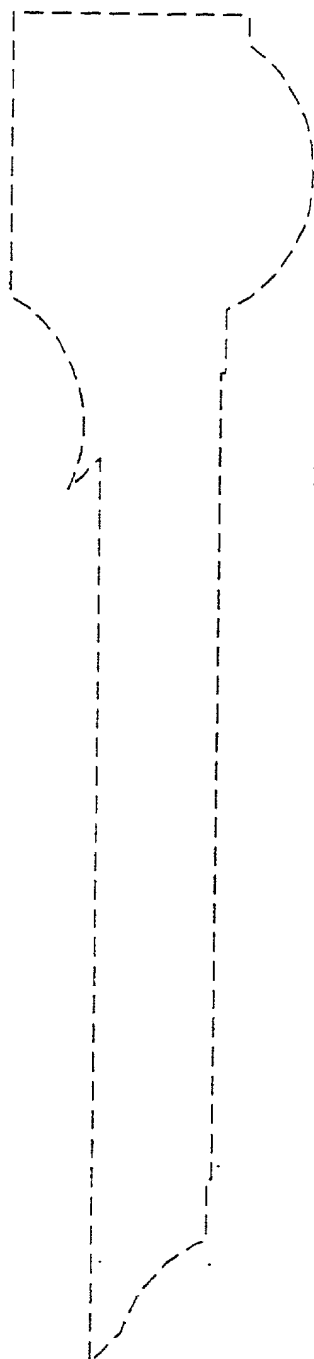
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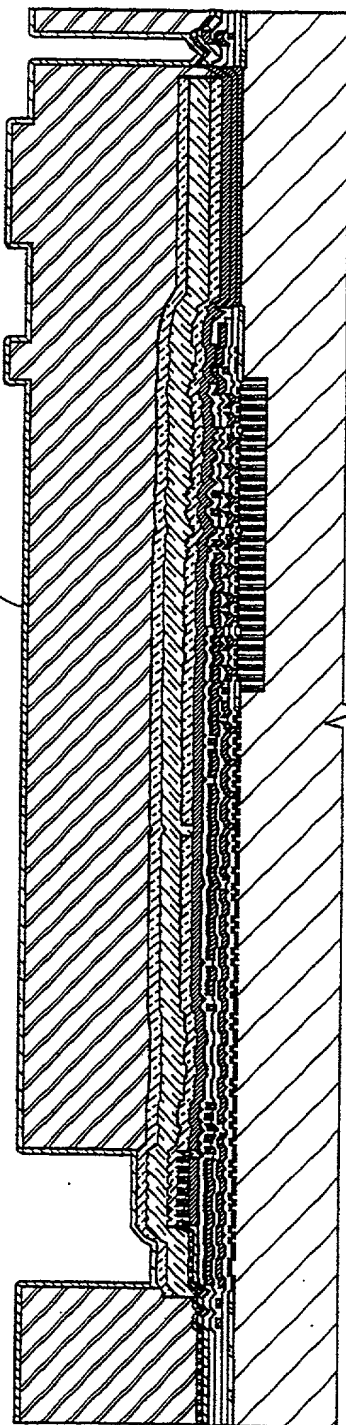
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FIG. 64



No mask

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Deposit chamber walls

FIG. 65

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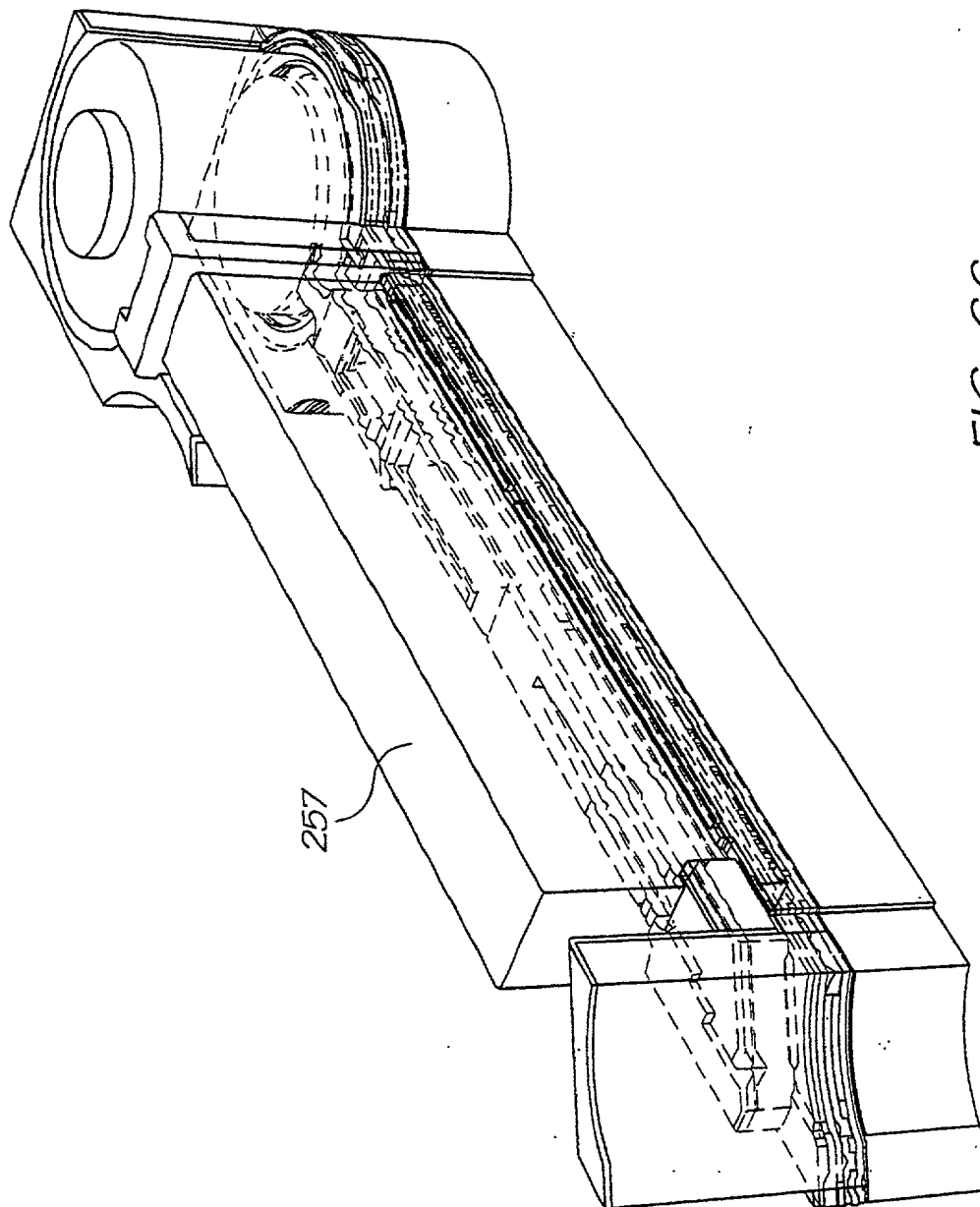
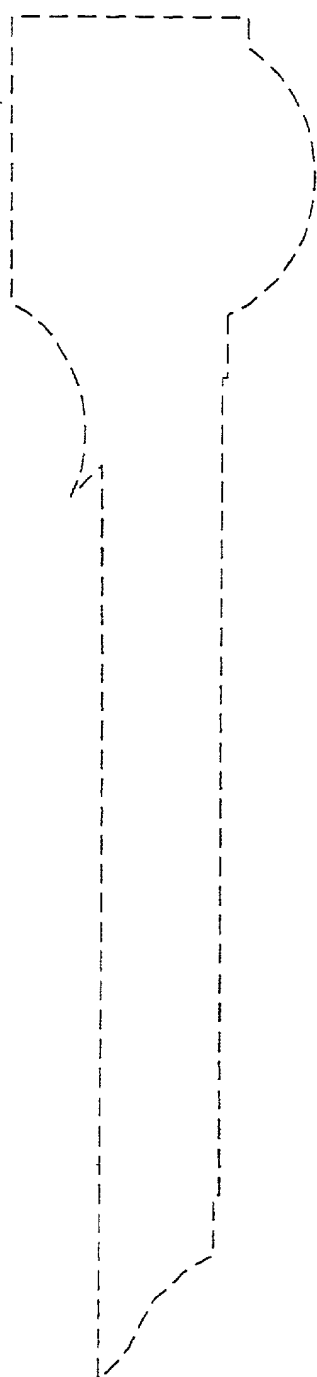


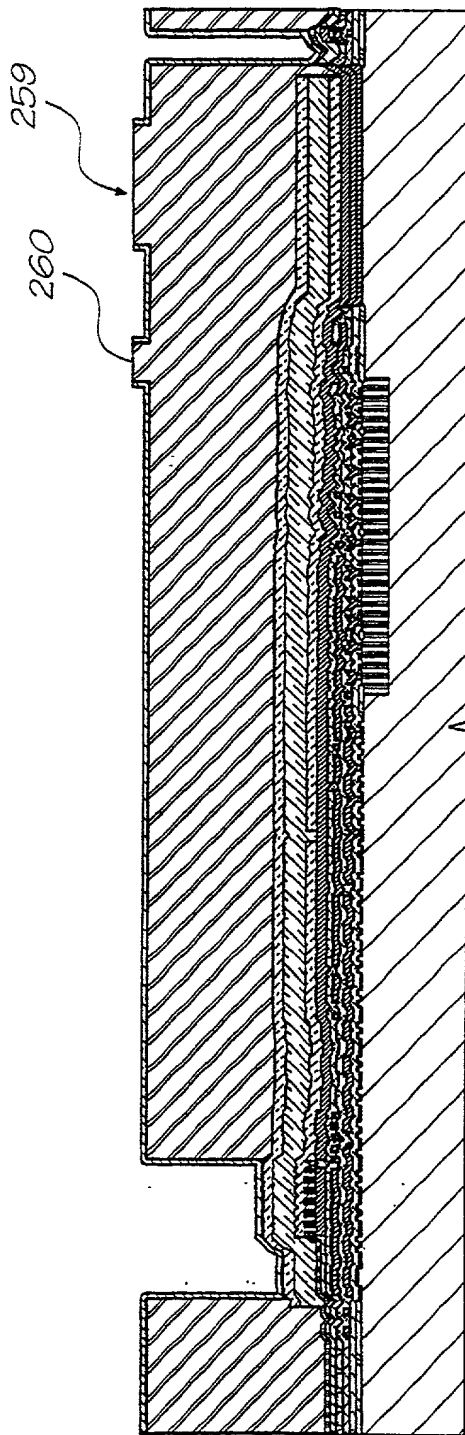
FIG. 66

FIG. 66

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No mask



Form self-aligned nozzles using CMP

FIG. 67

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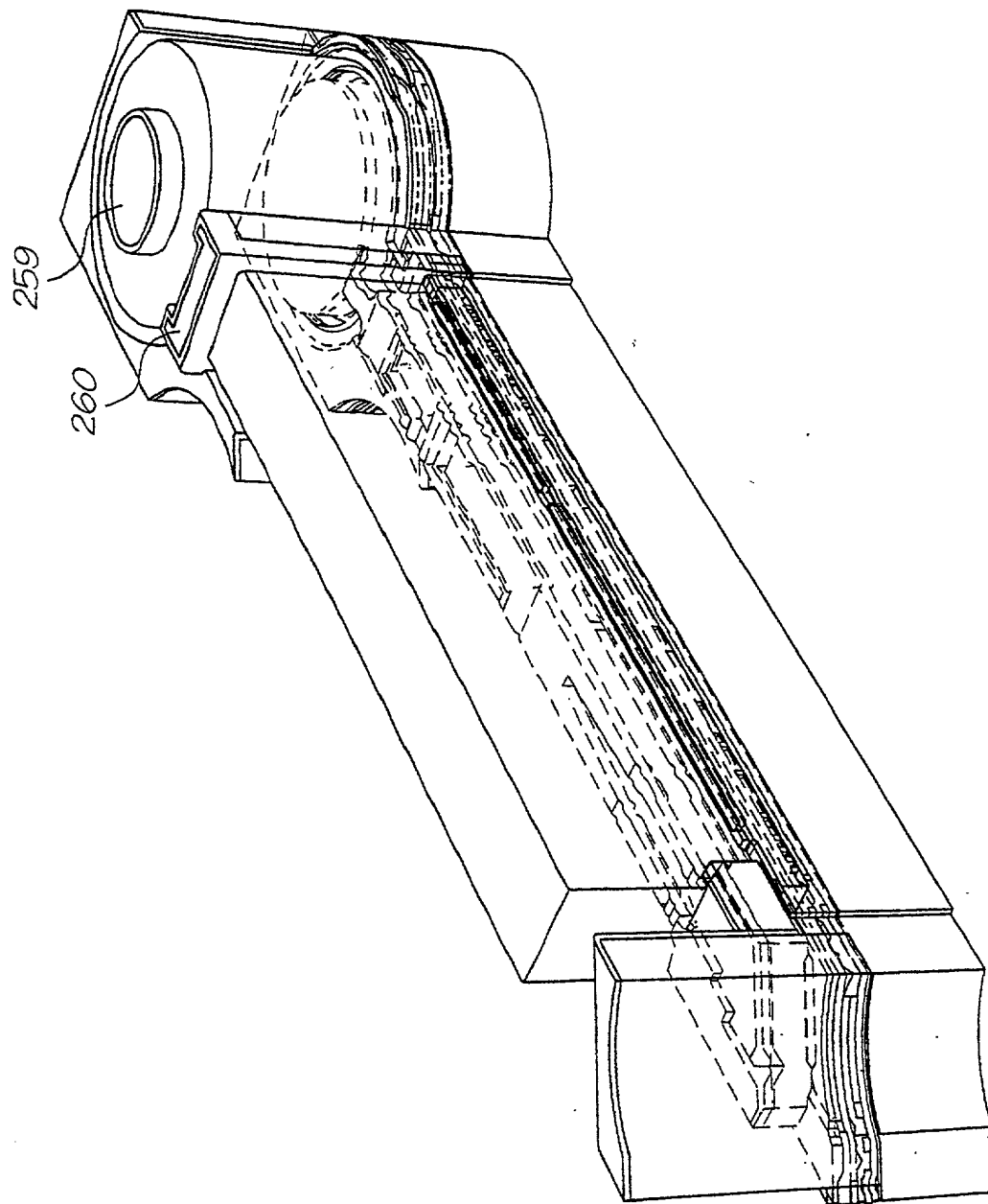
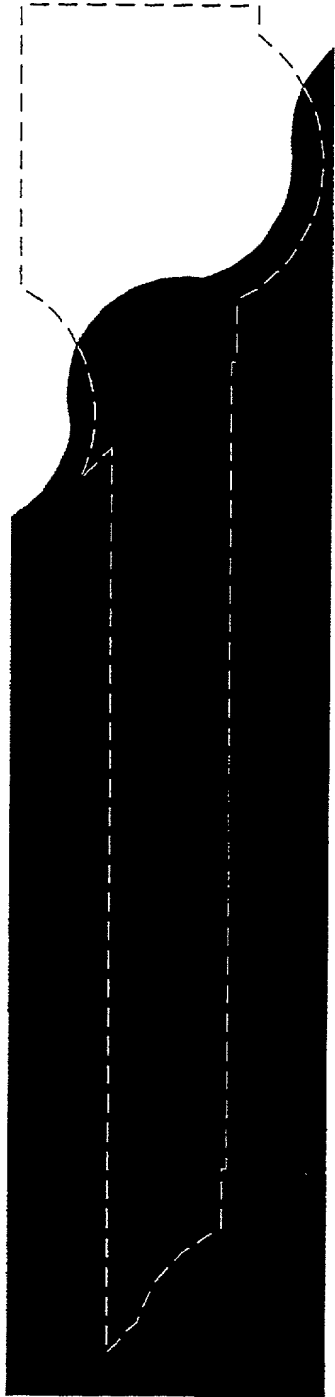


FIG. 68

FIG. 68

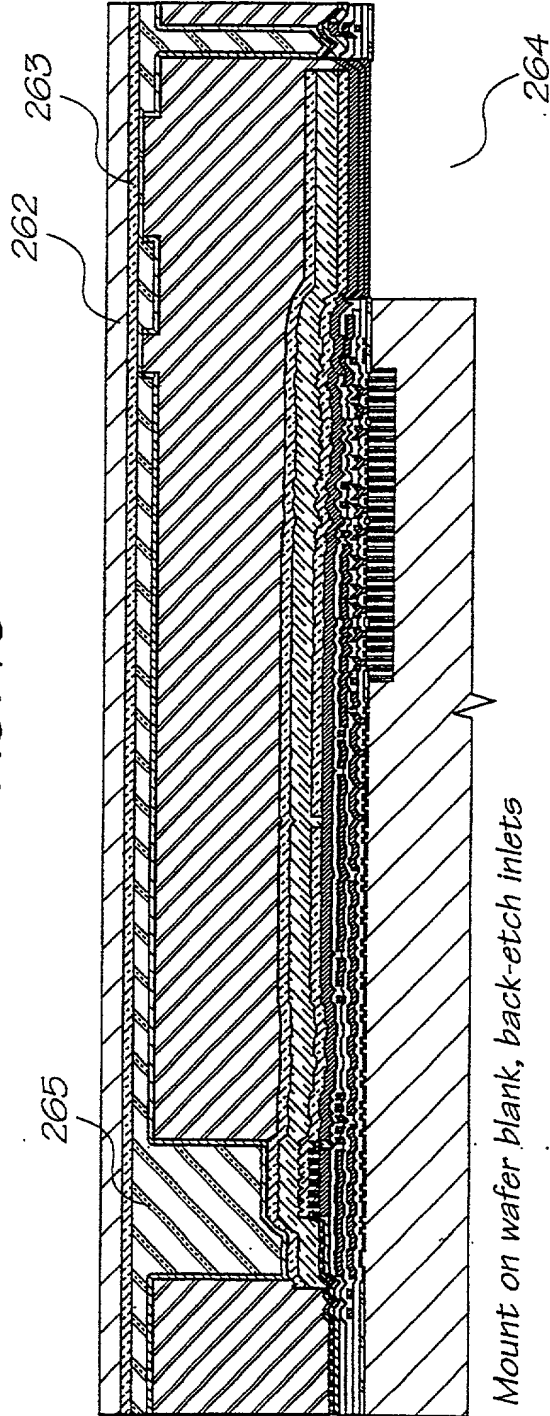
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FIG. 69



Back-etch inlet mask

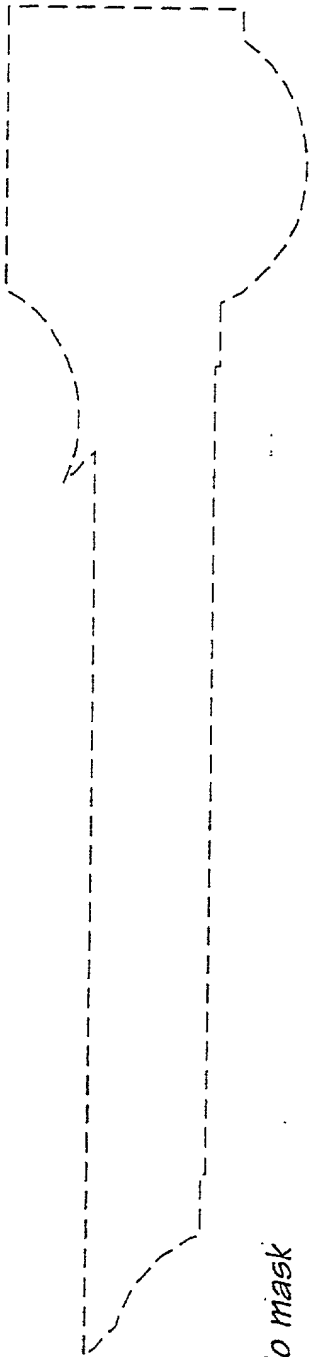
FIG. 70



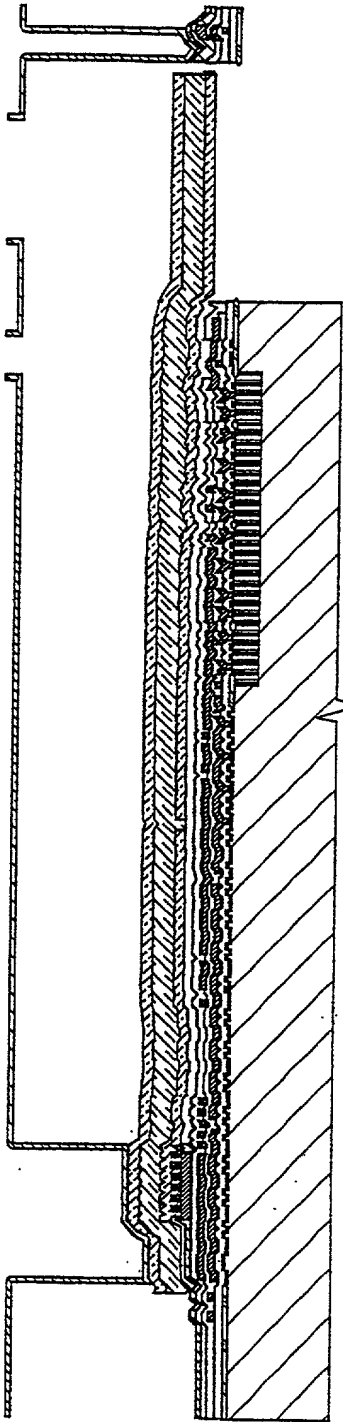
Mount on wafer blank, back-etch inlets

FIG. 69

FIG. 70



No mask



Detach from wafer blank, etch sacrificial material

FIG. 71

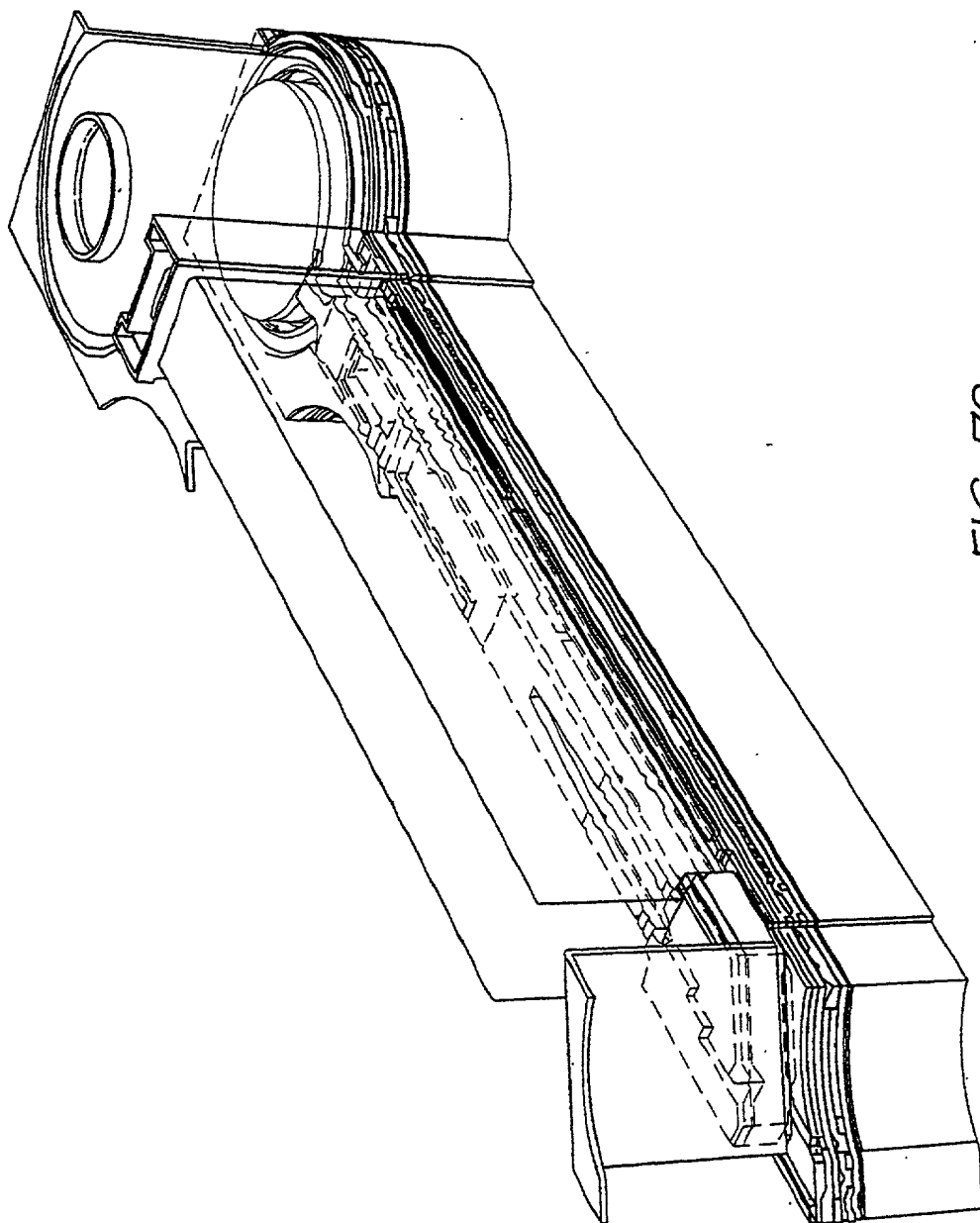


FIG. 72

FIG. 72

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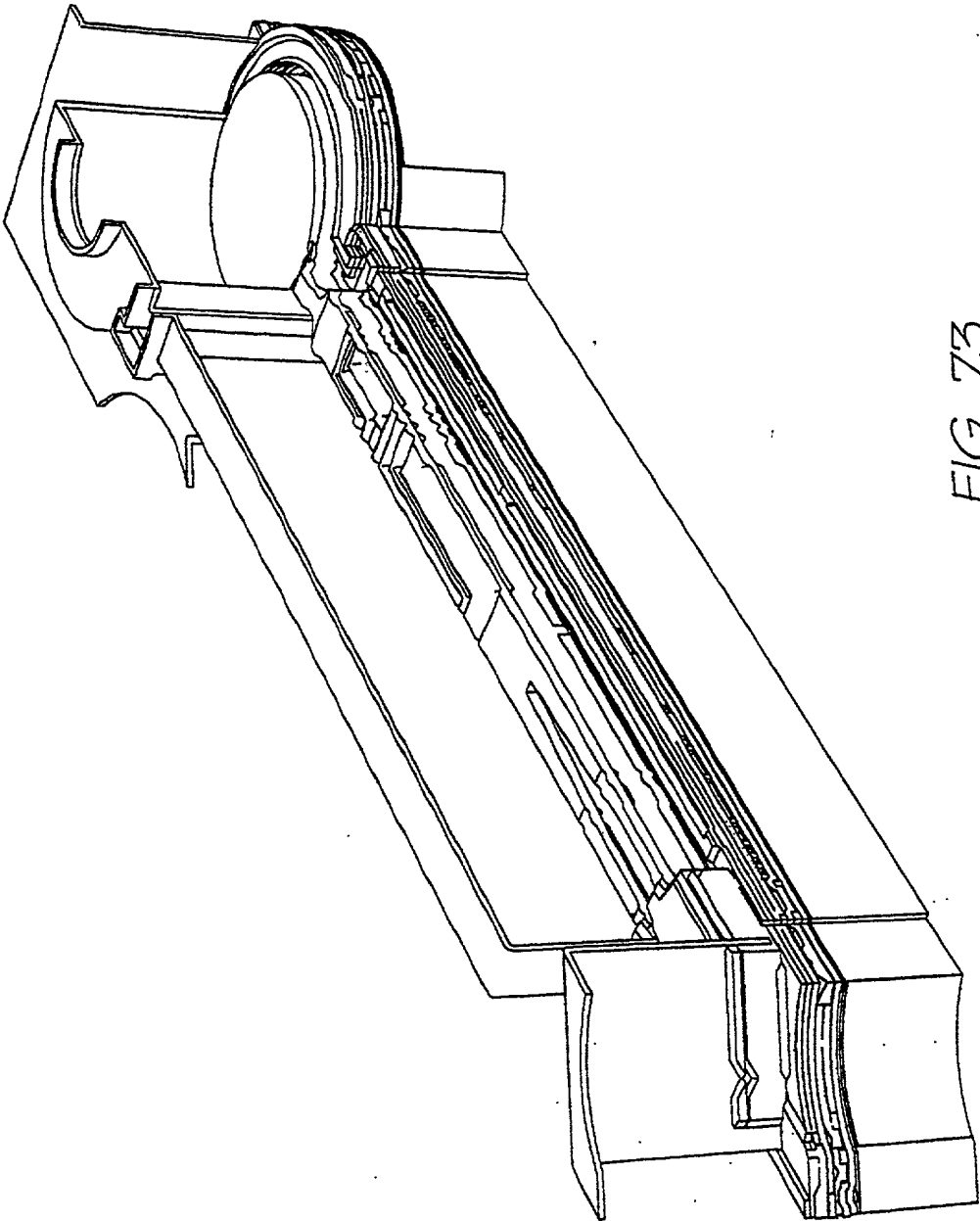


FIG. 73



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FIG. 73

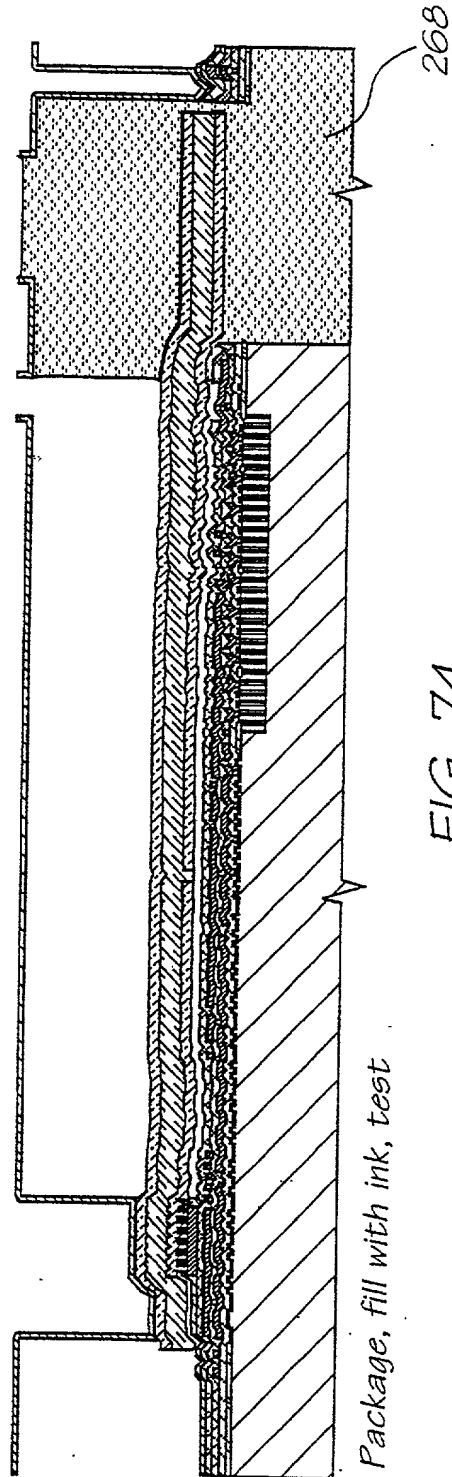
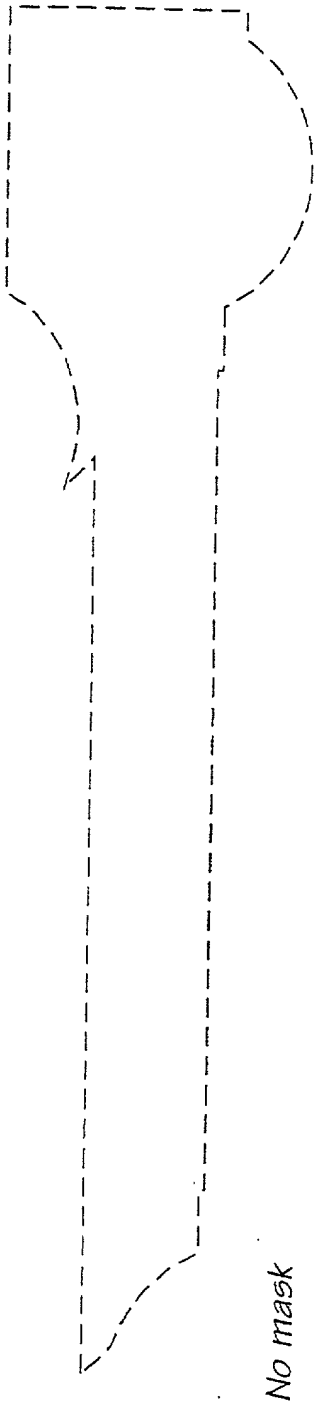


FIG. 74

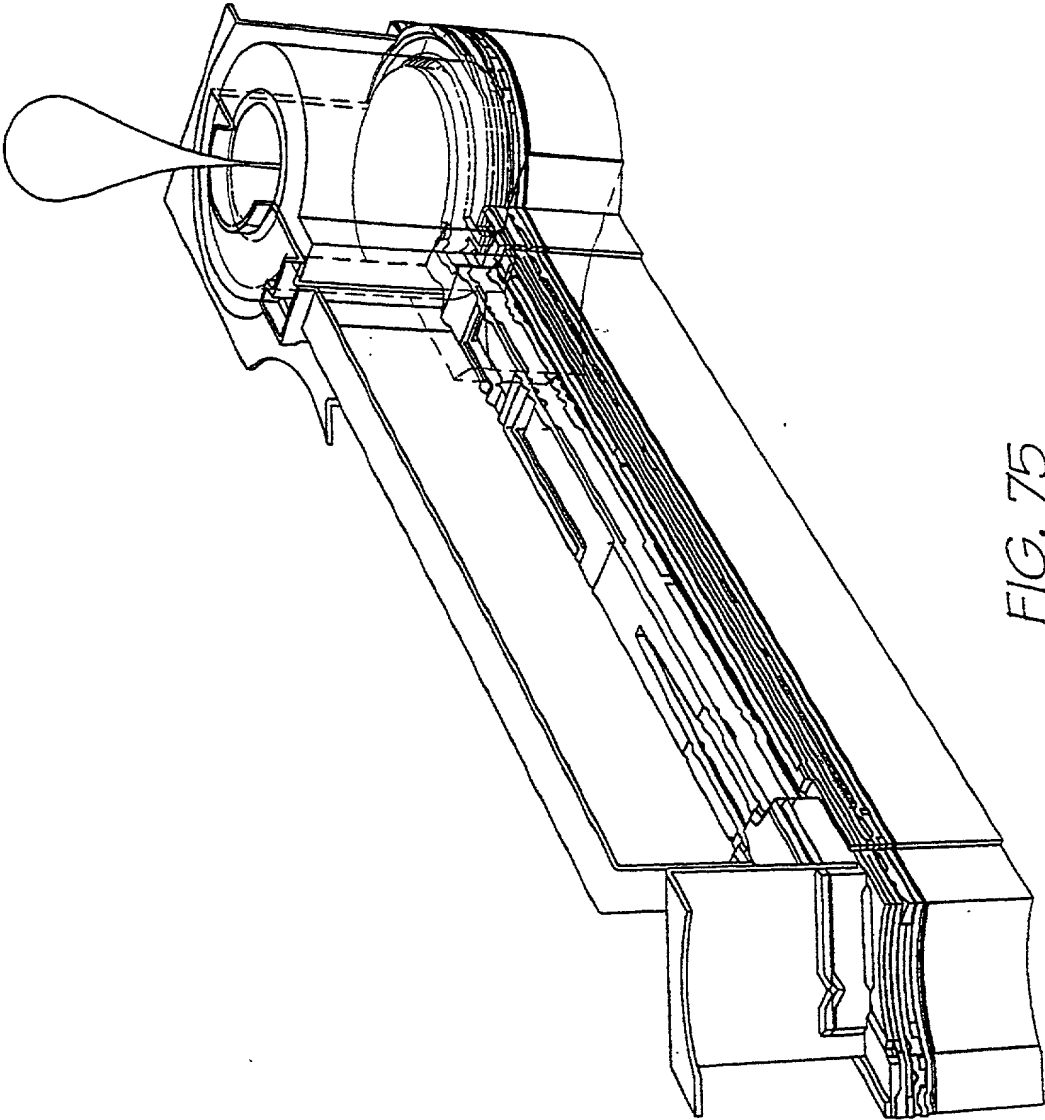


FIG. 75

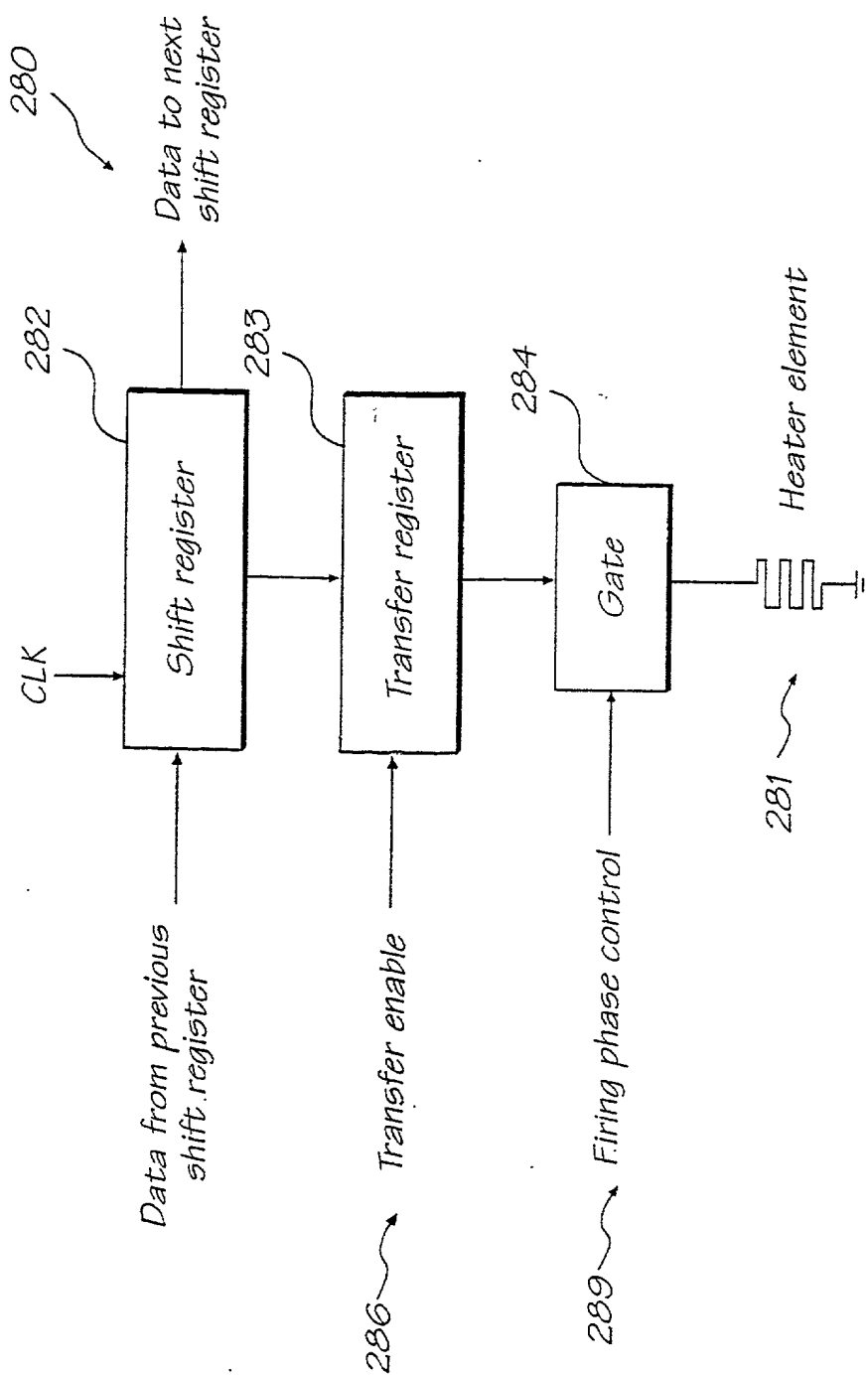


FIG. 76

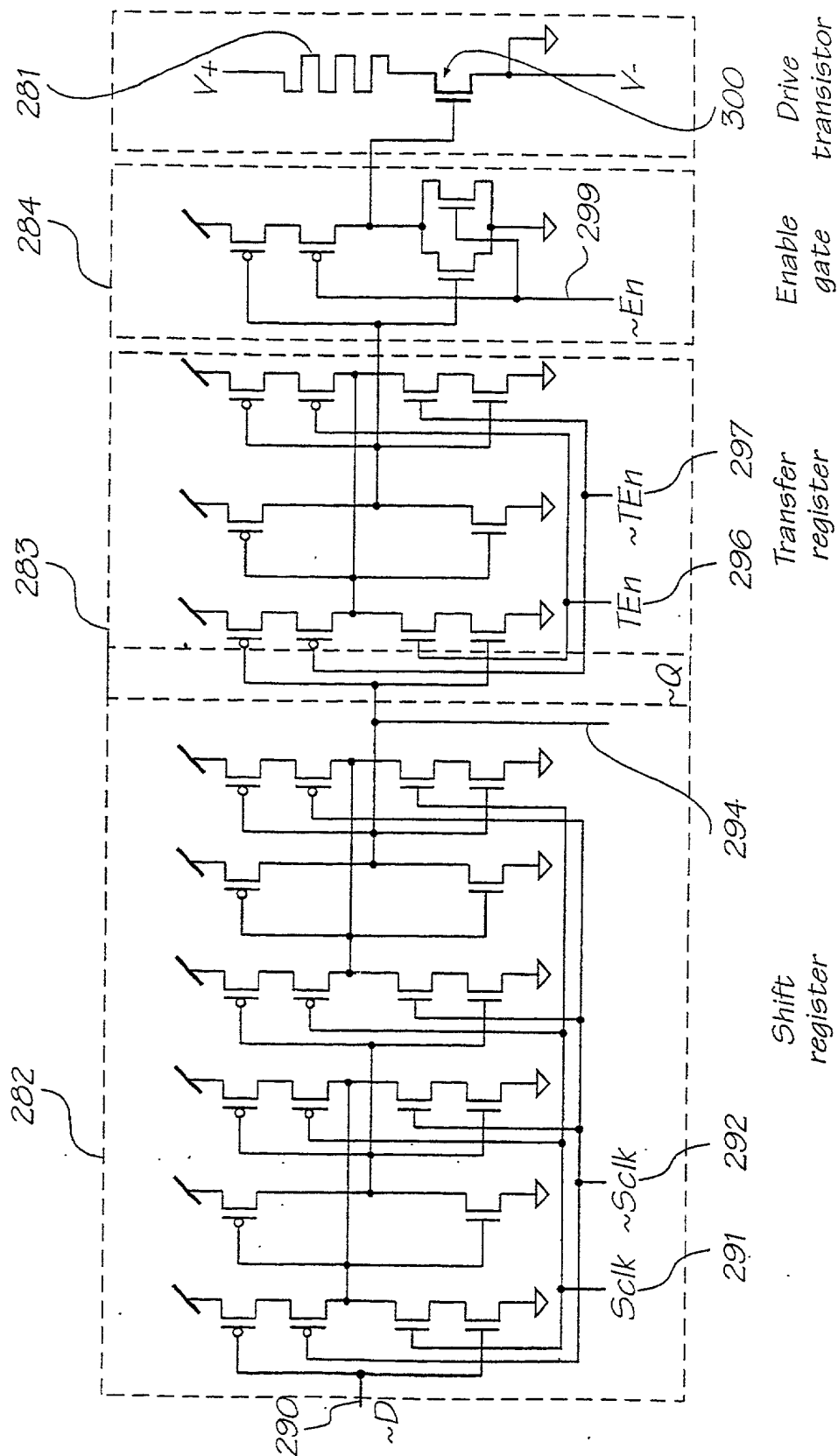


FIG. 77

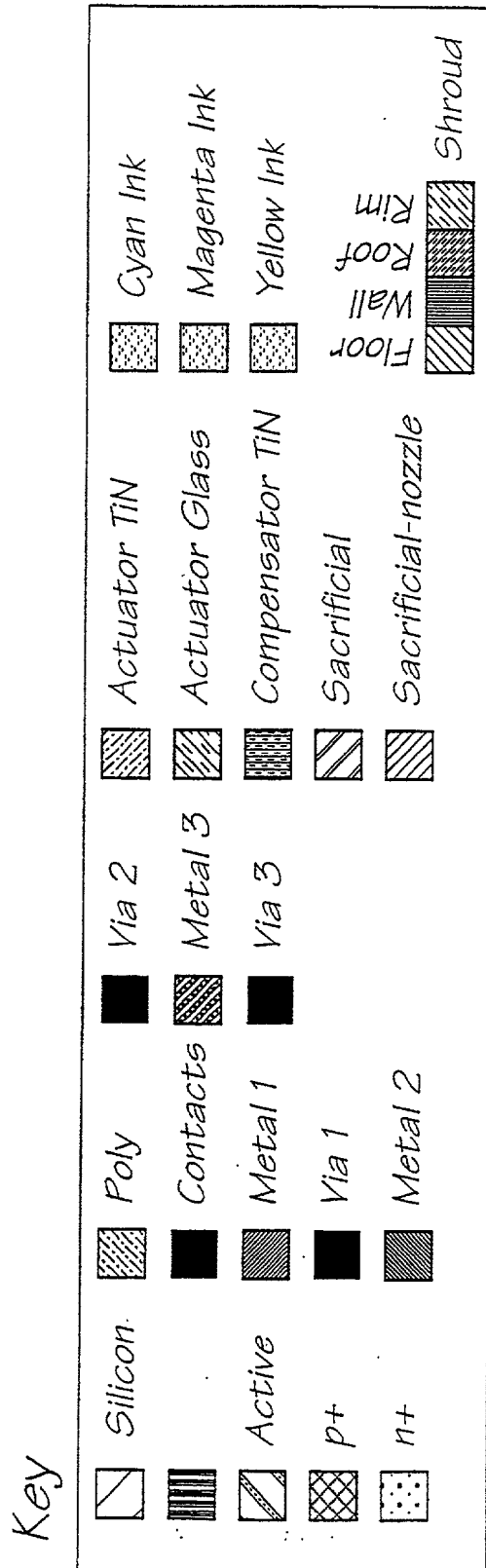


FIG. 78

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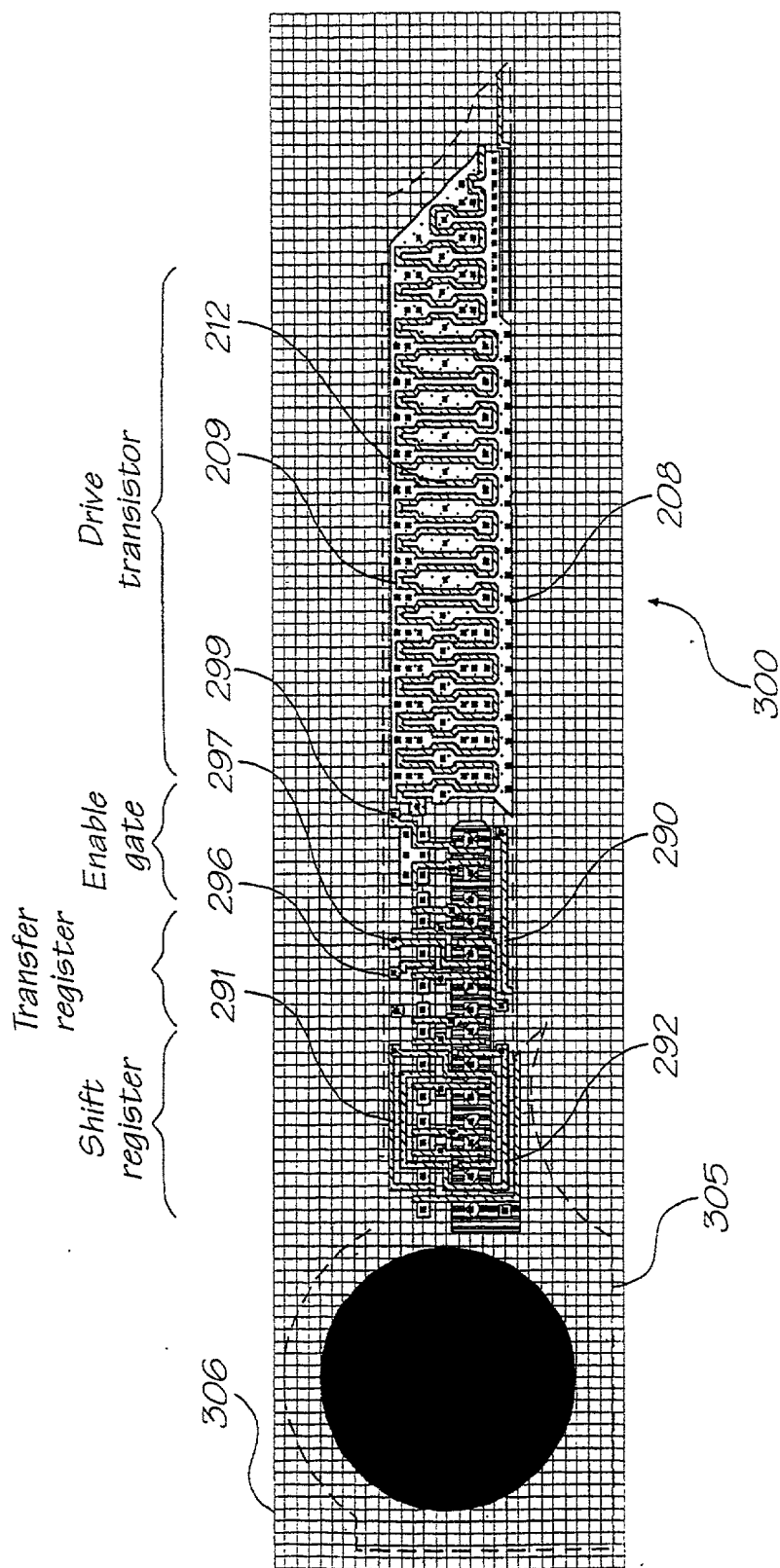


FIG. 79

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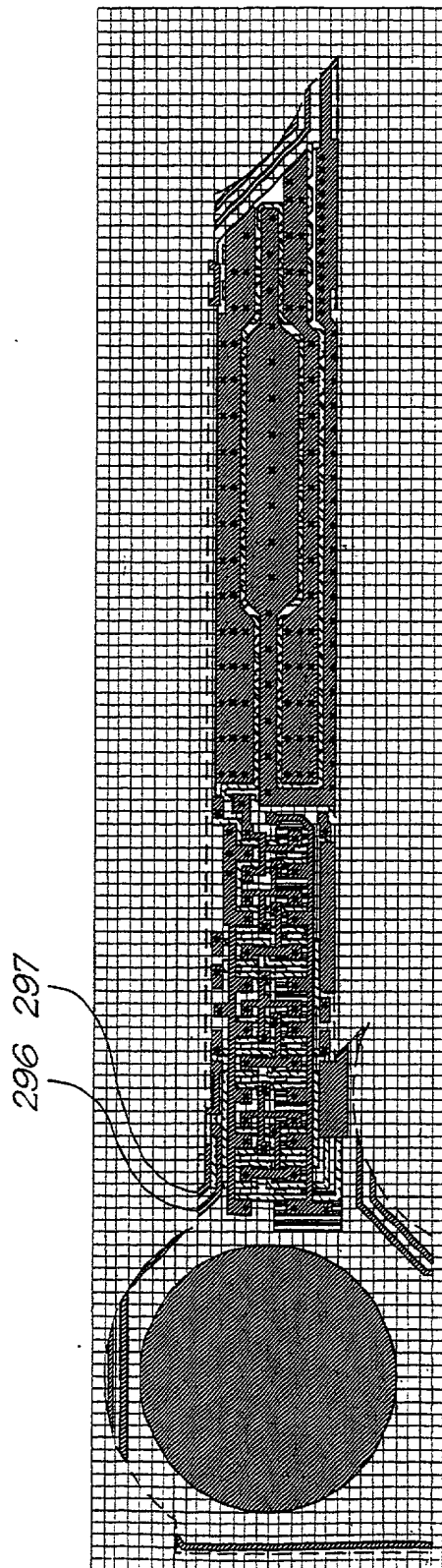


FIG. 80

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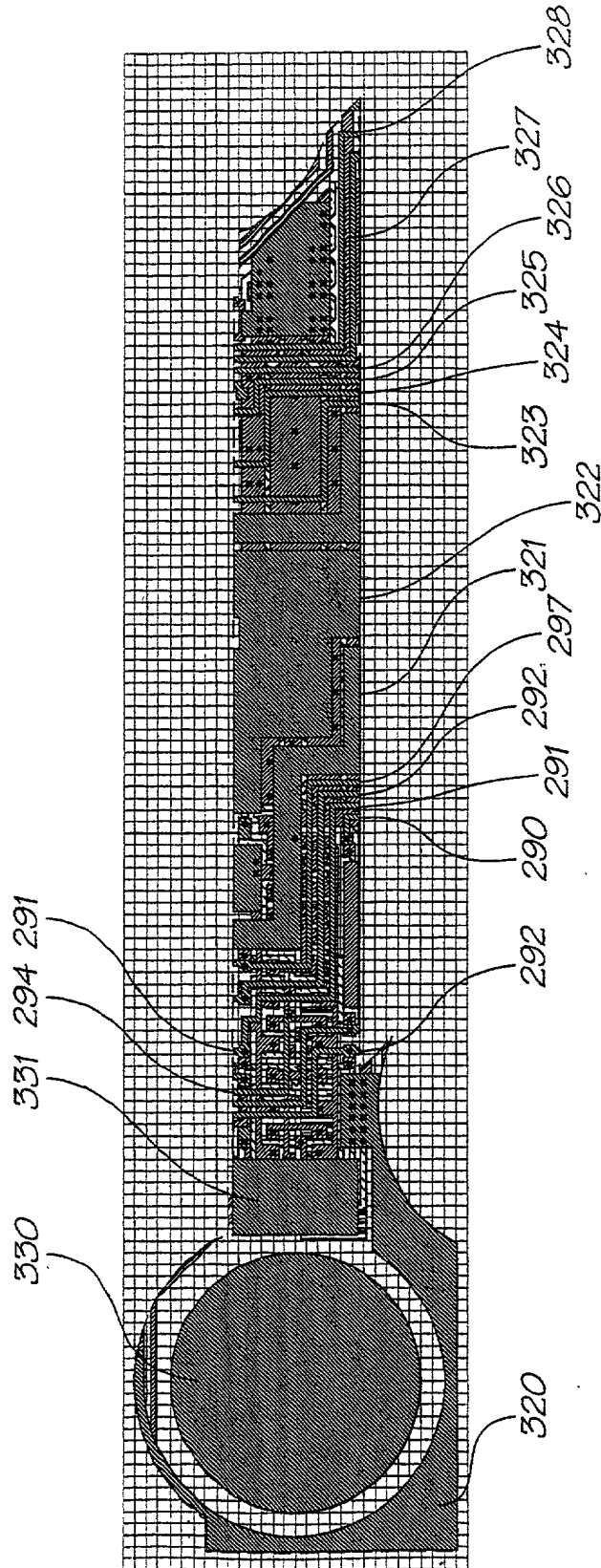


FIG. 81



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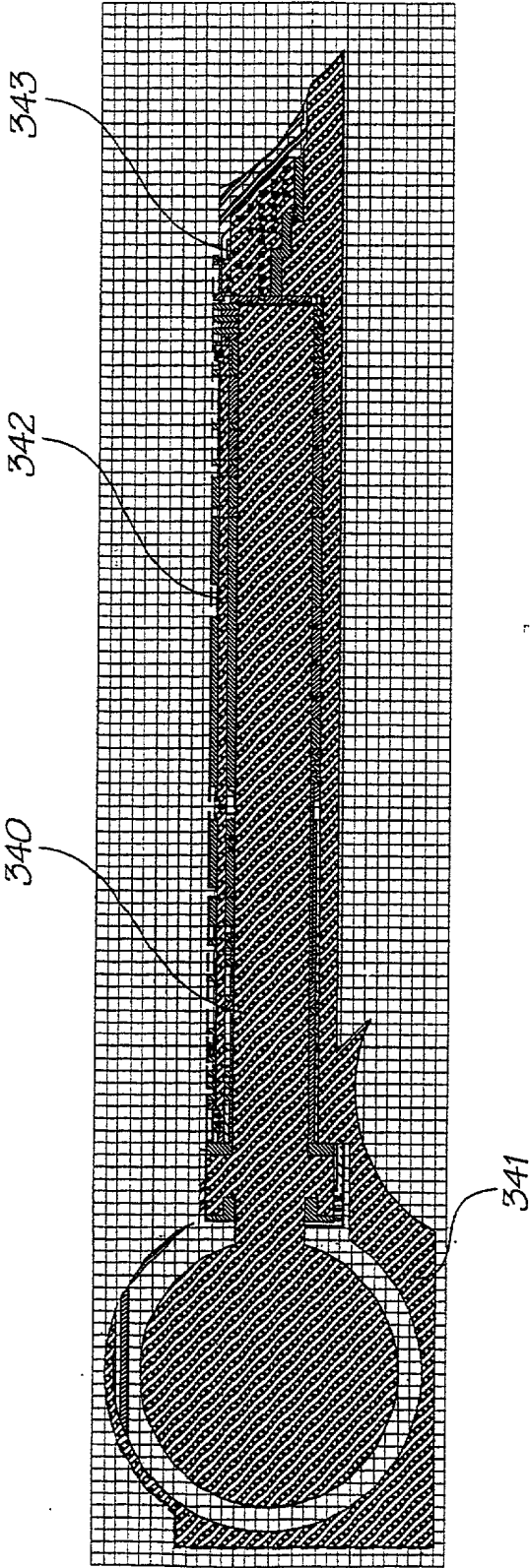


FIG. 82

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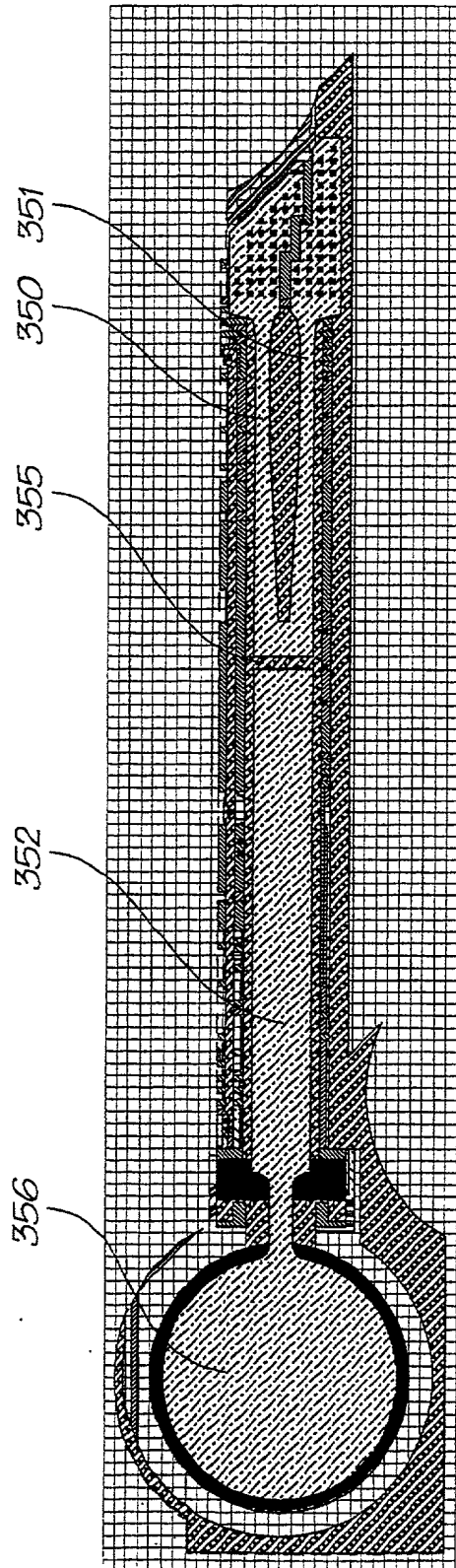


FIG. 83

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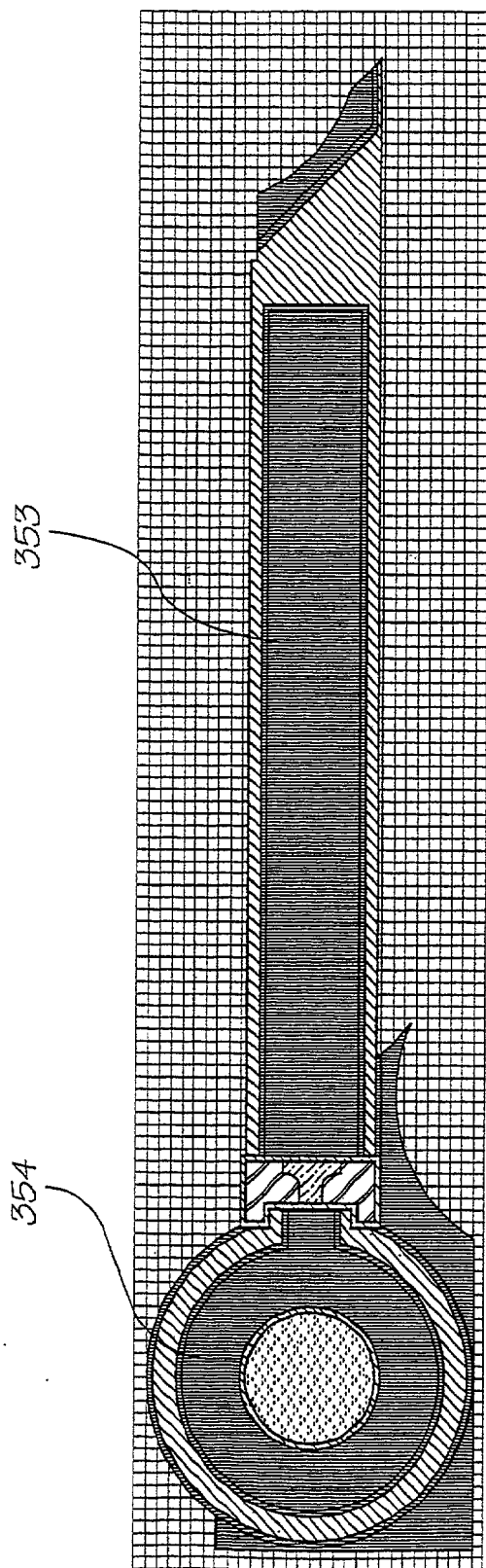


FIG. 84

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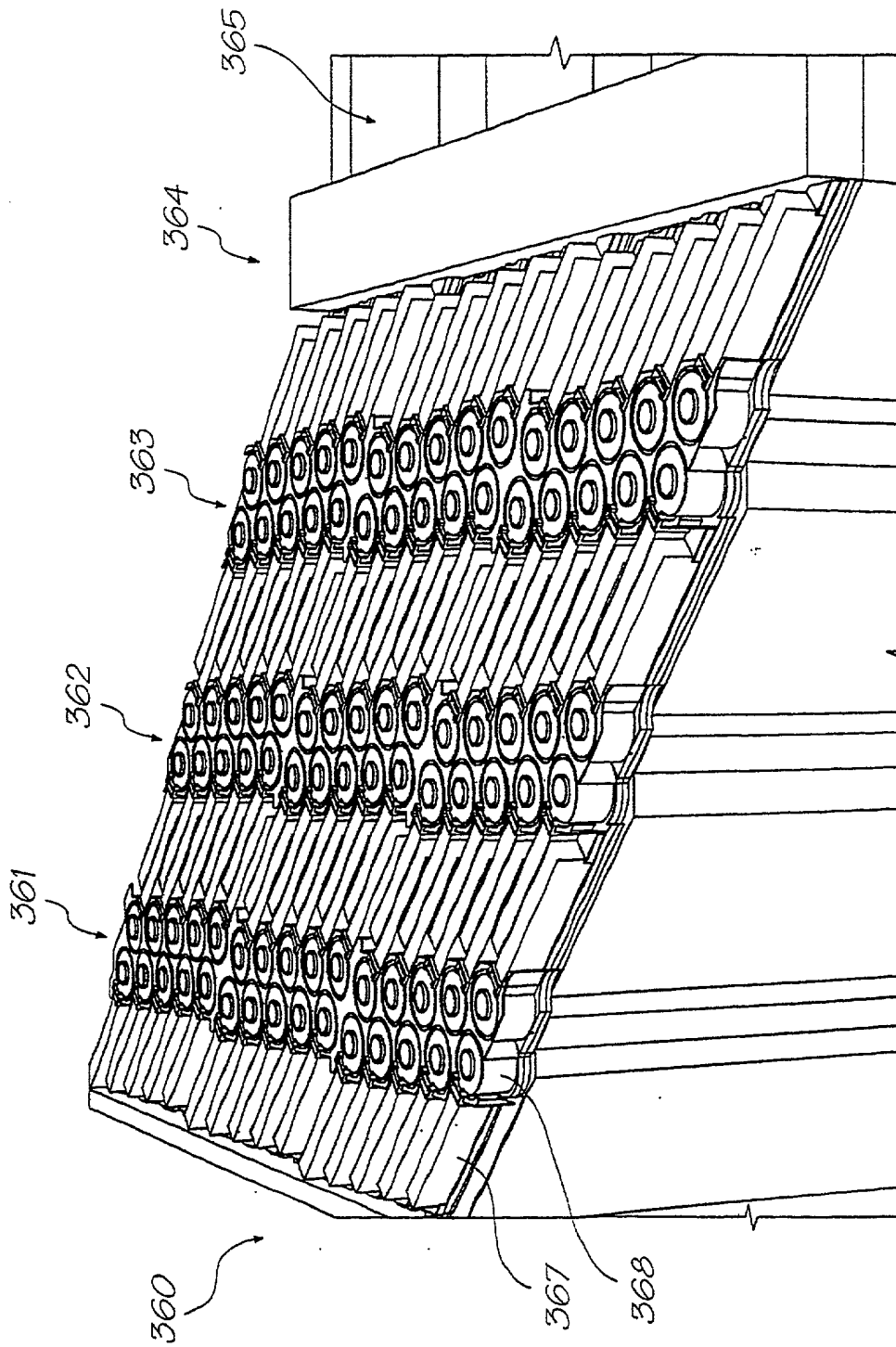


FIG. 85

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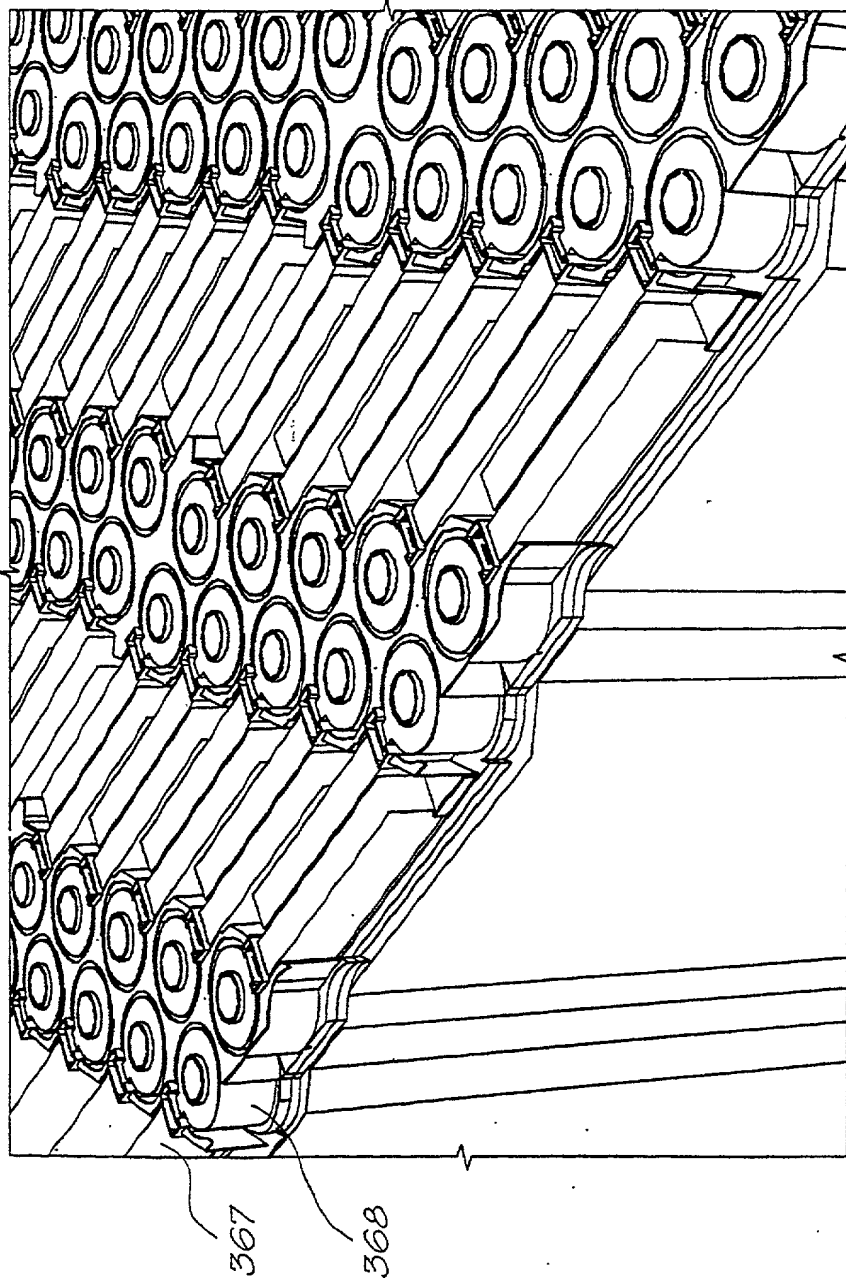


FIG. 86

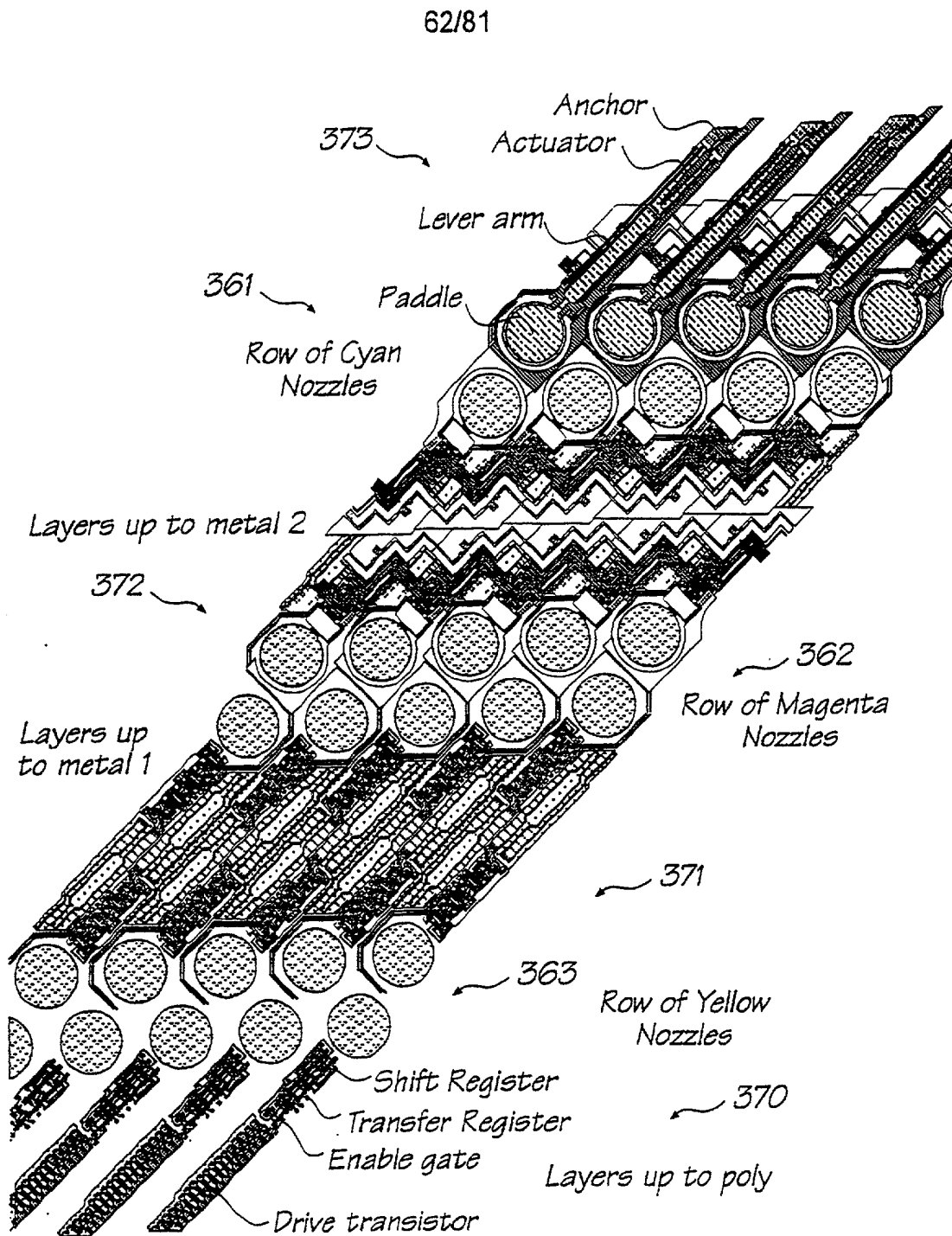


FIG. 87

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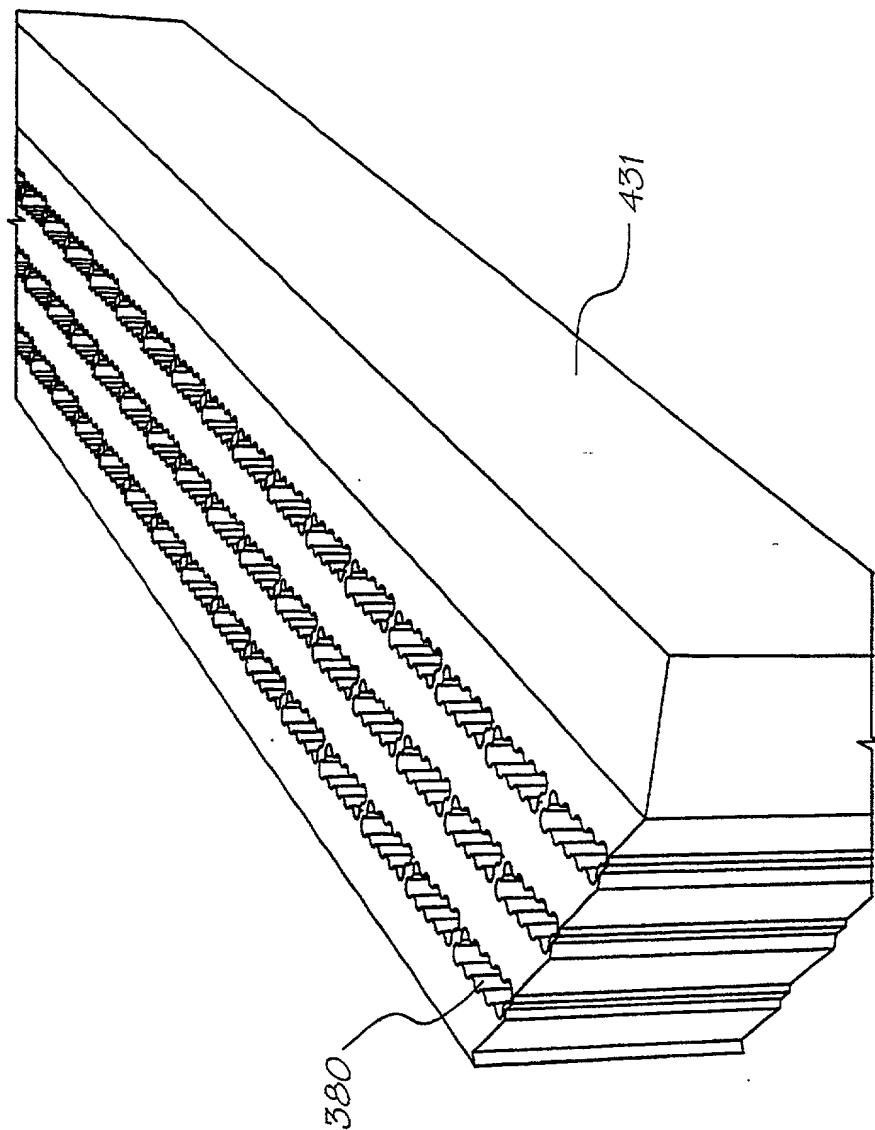


FIG. 88

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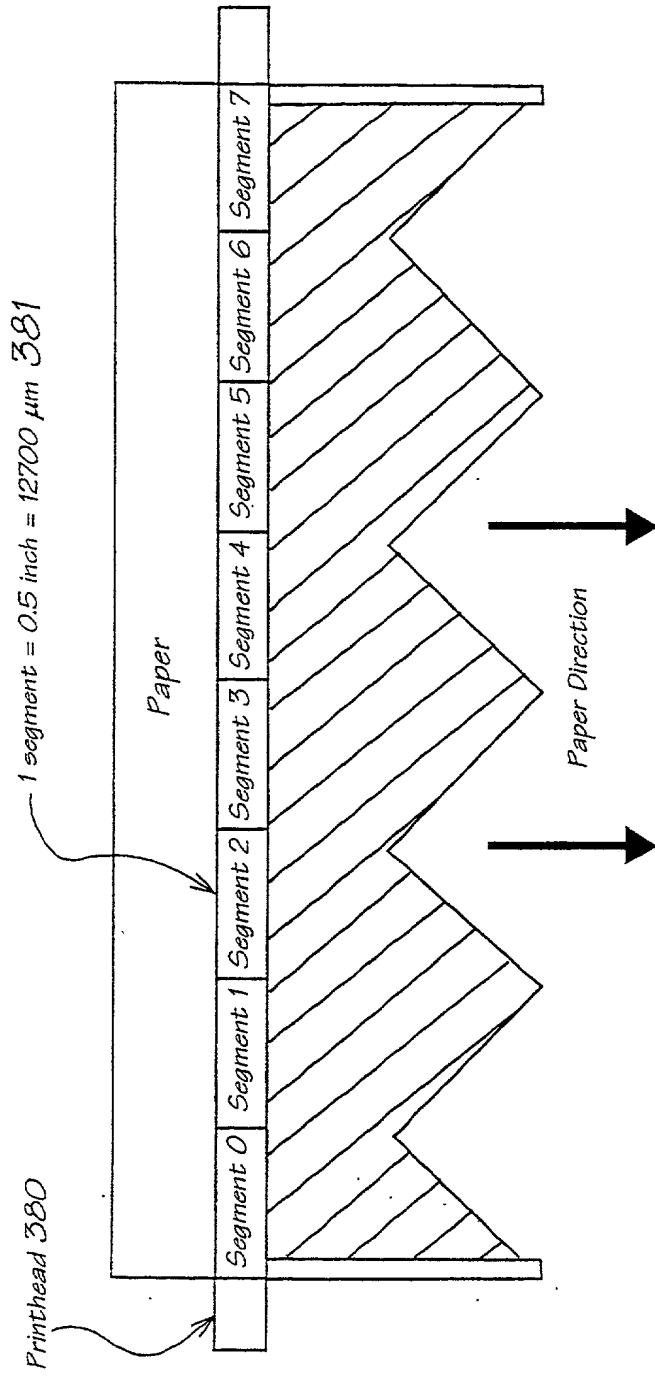
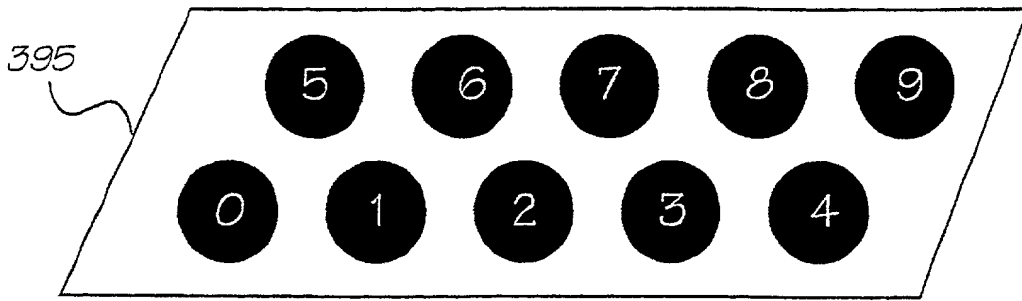


FIG. 89

FIG. 89



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A single pod, numbered by firing order

Fig. 90

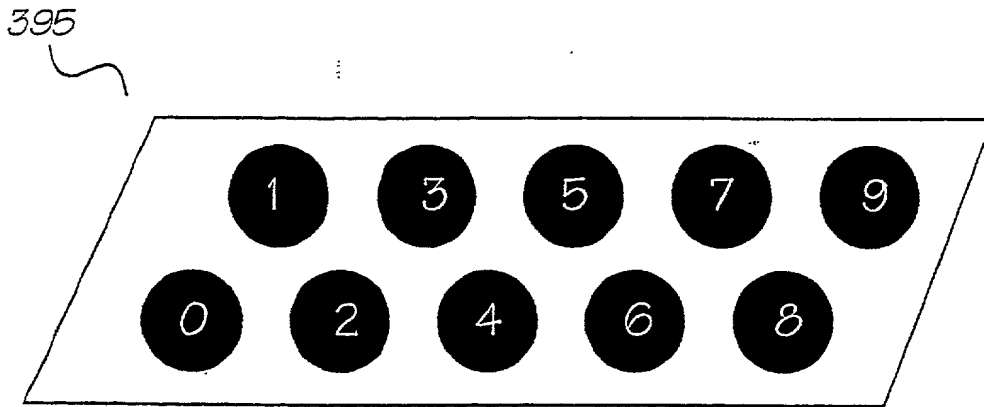


Fig. 91

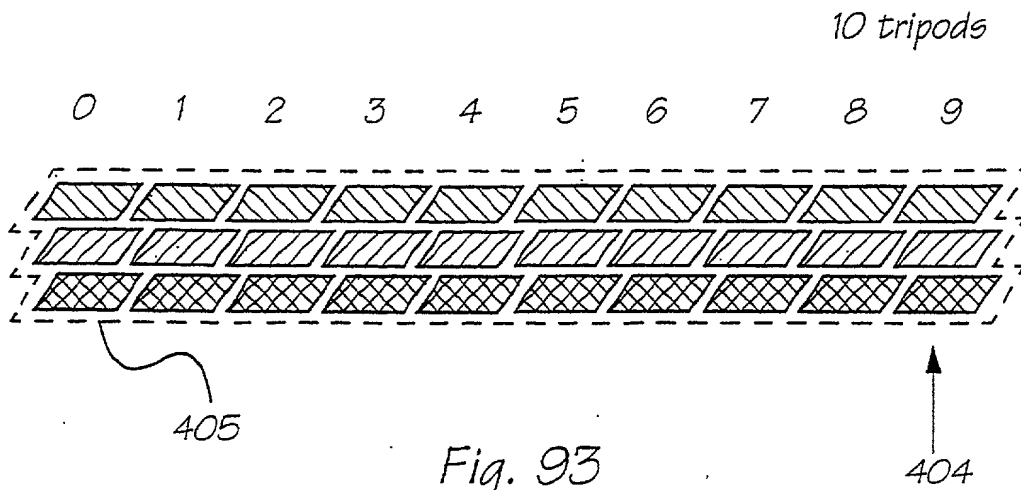


Fig. 93

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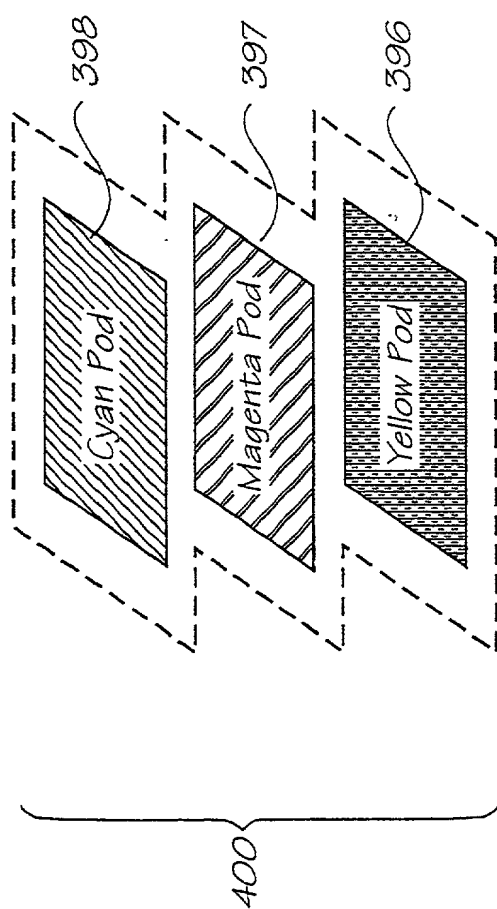


FIG. 92

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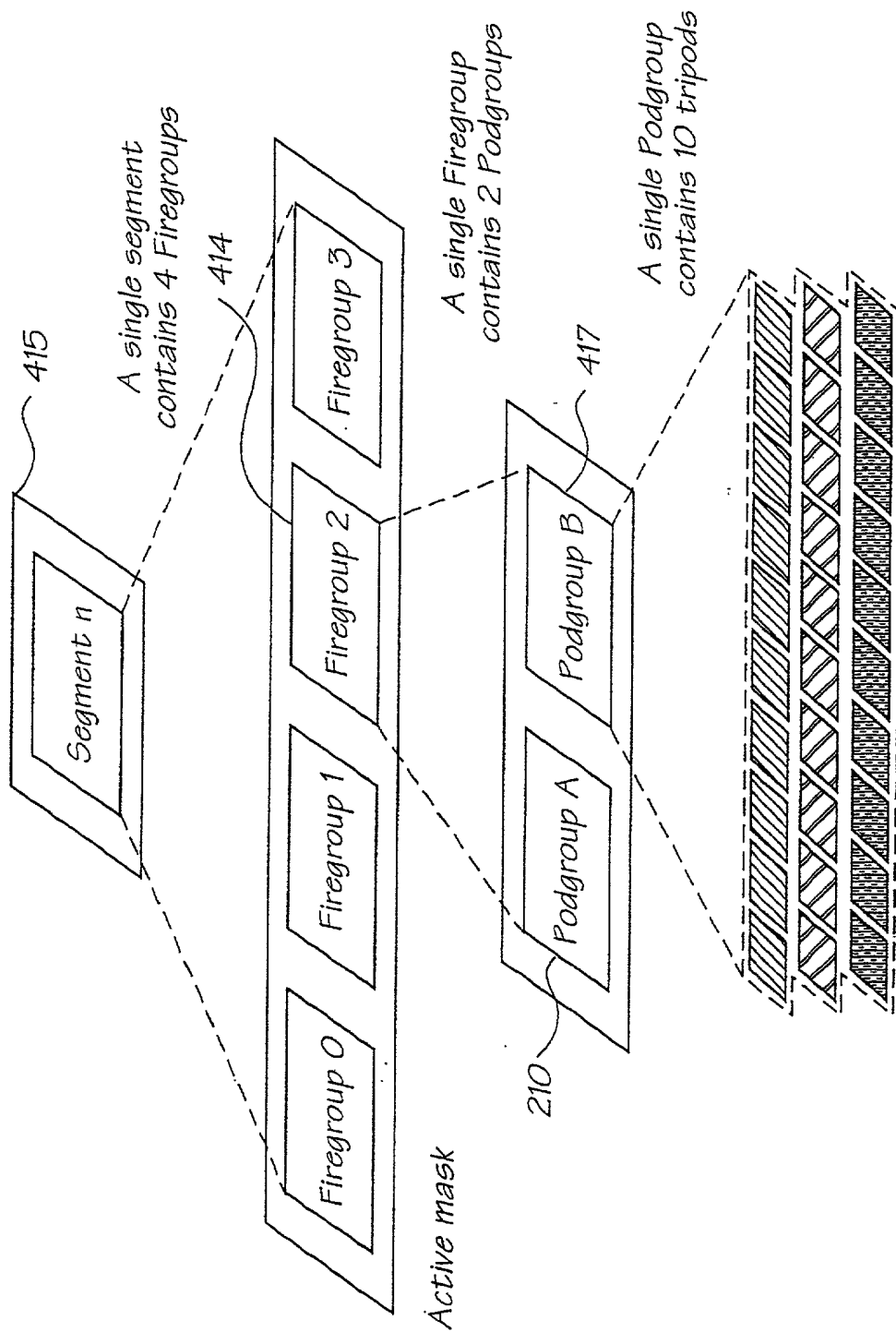


FIG. 94

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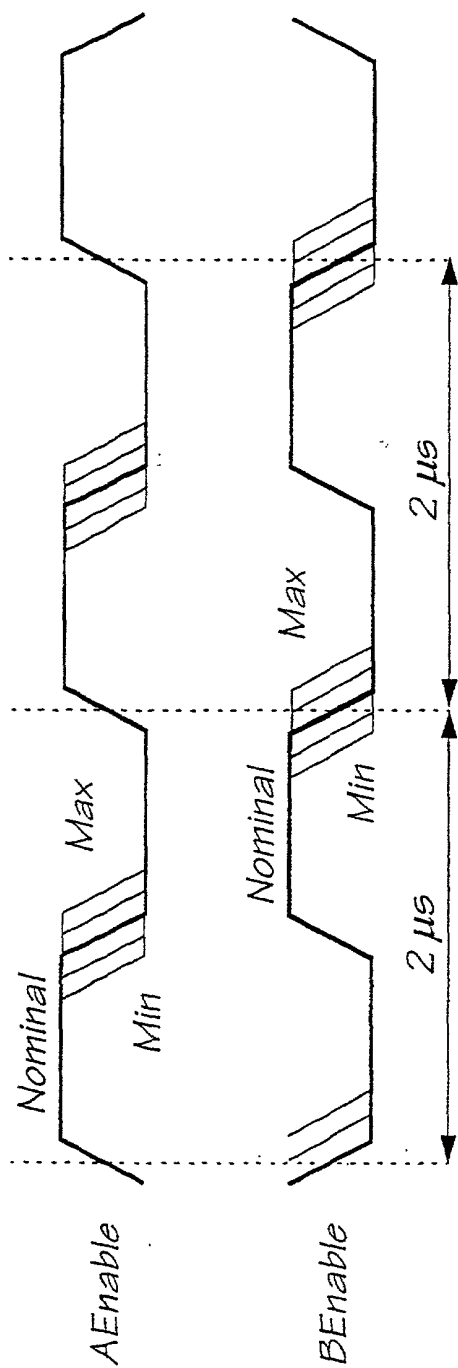


FIG. 95

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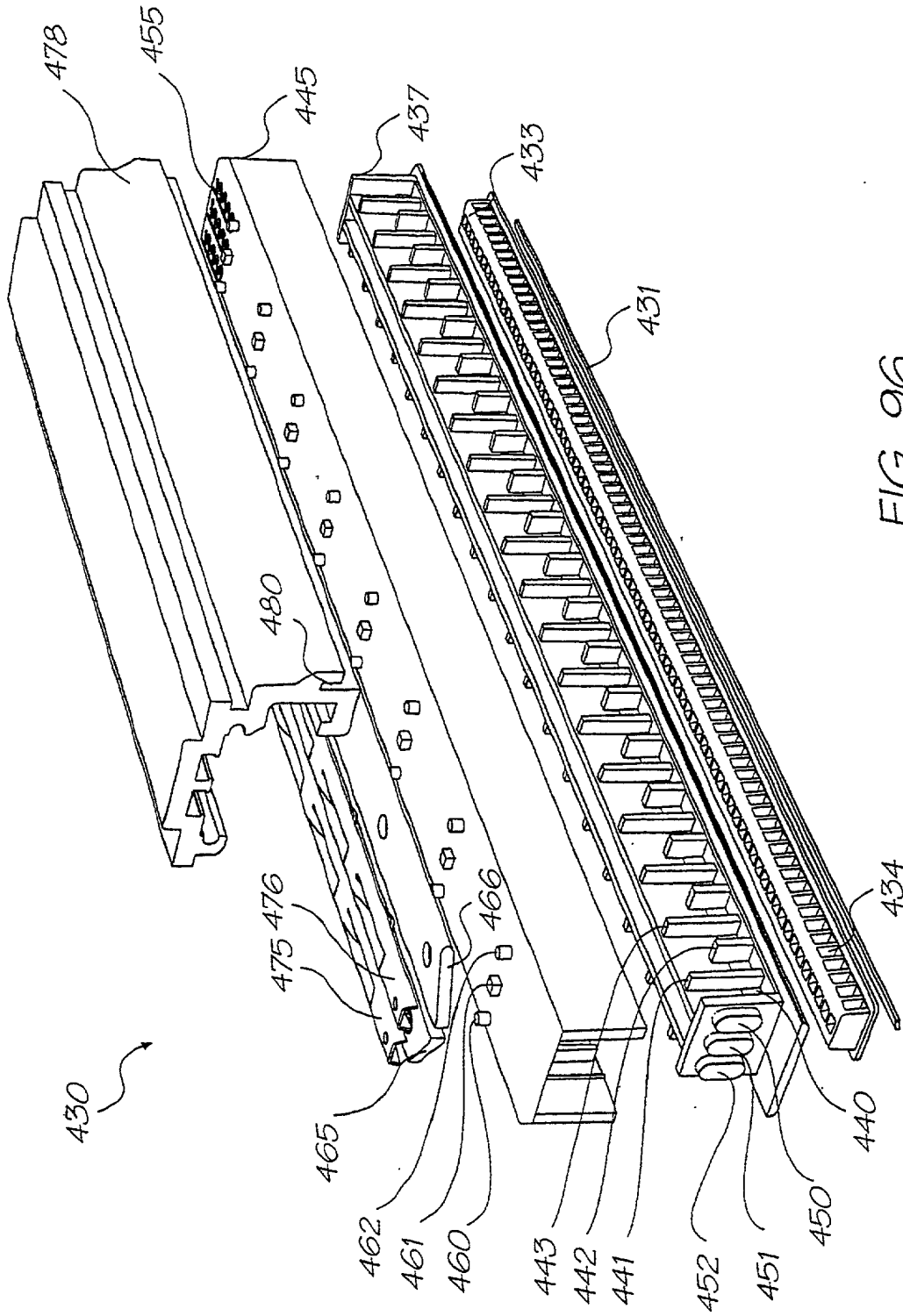


FIG. 96

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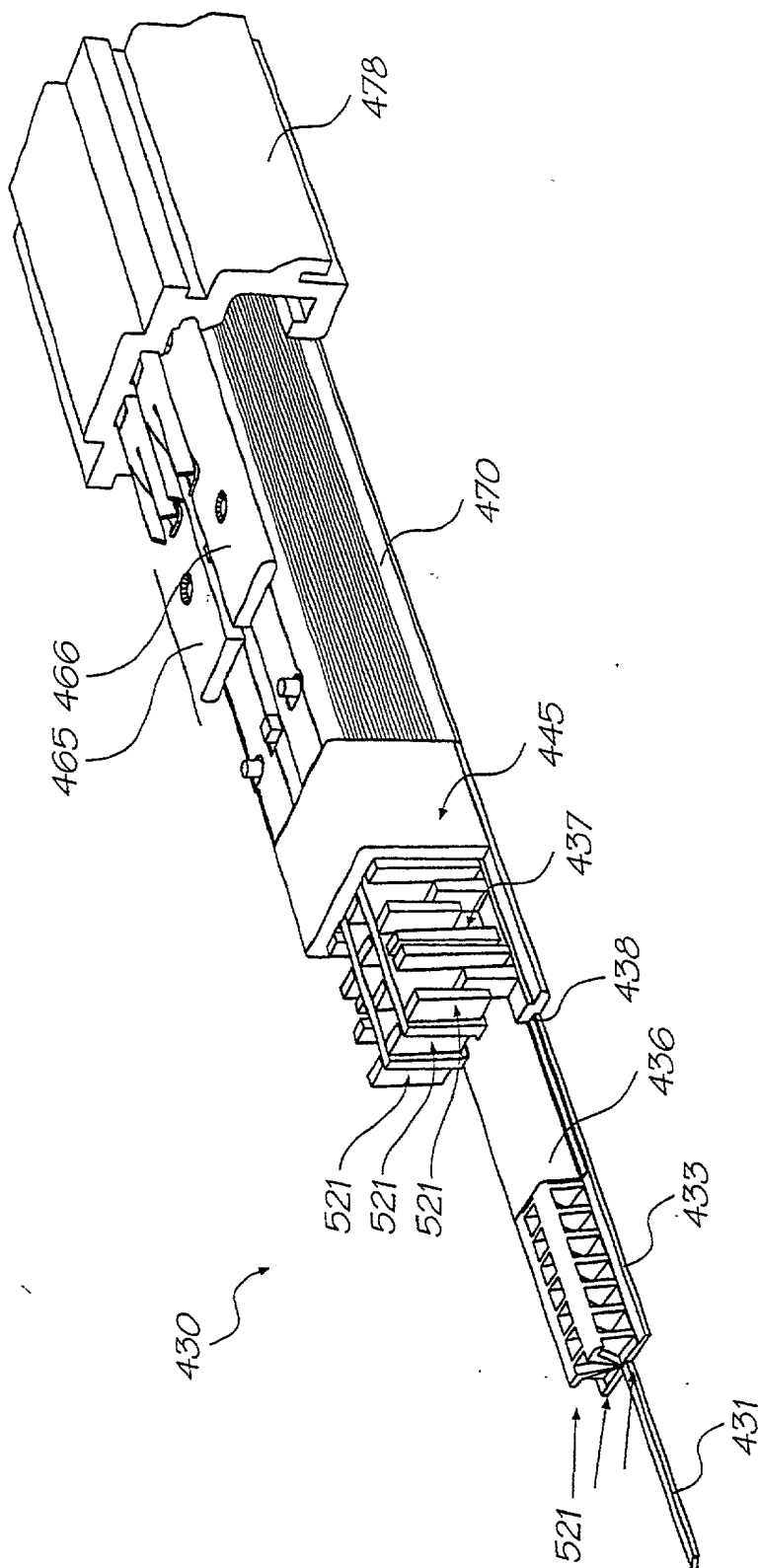


FIG. 97

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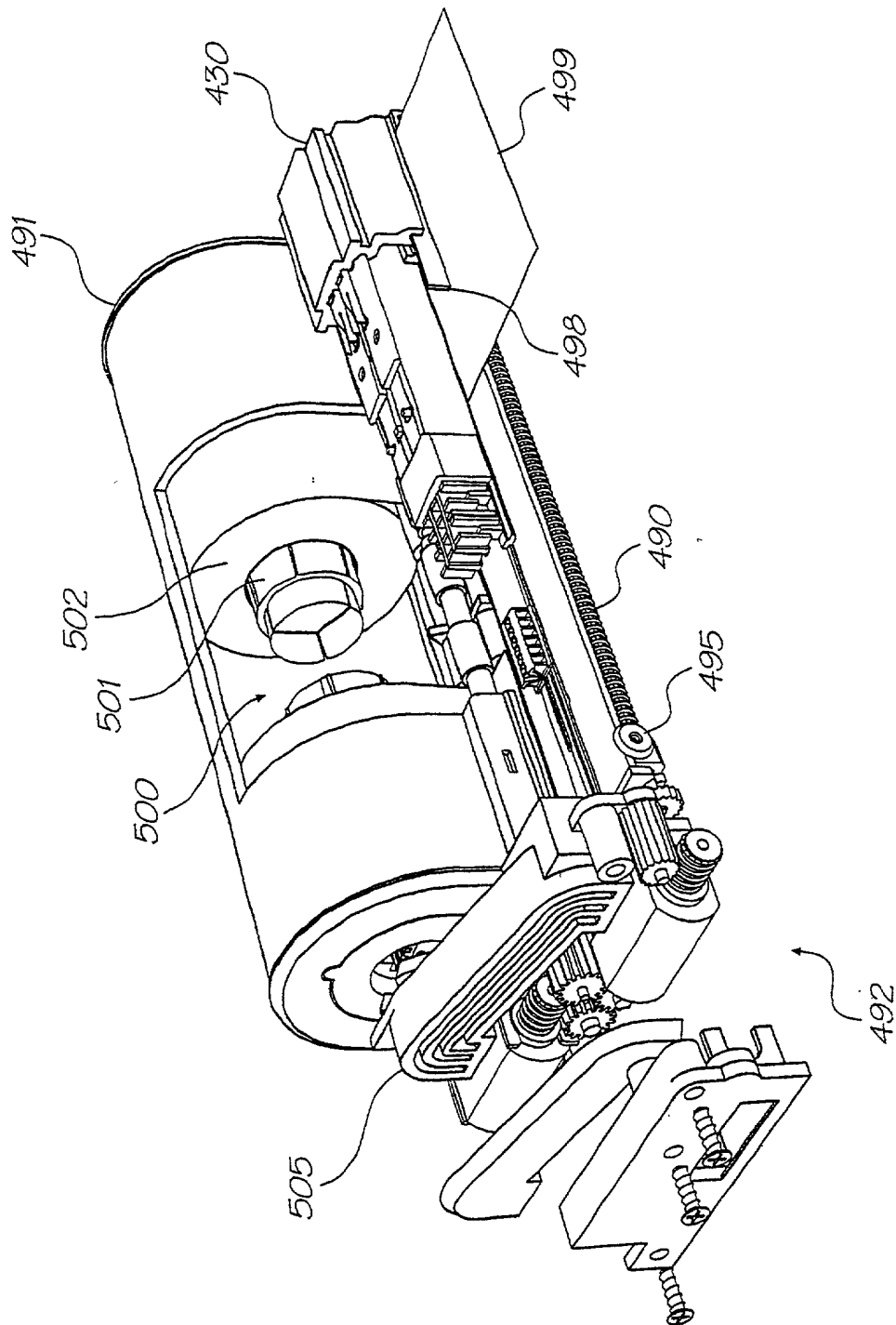


FIG. 98

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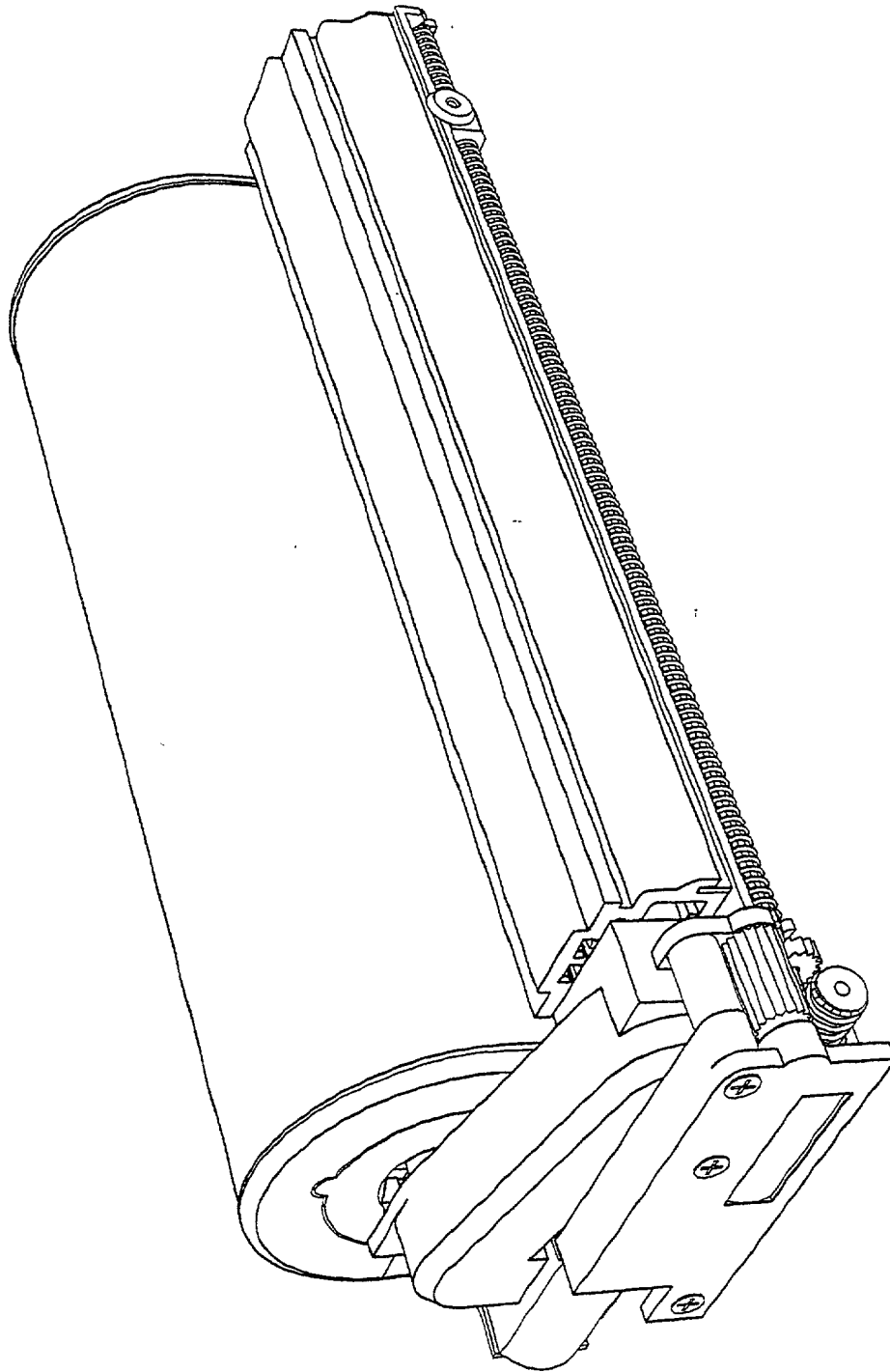


FIG. 99

FIG. 99



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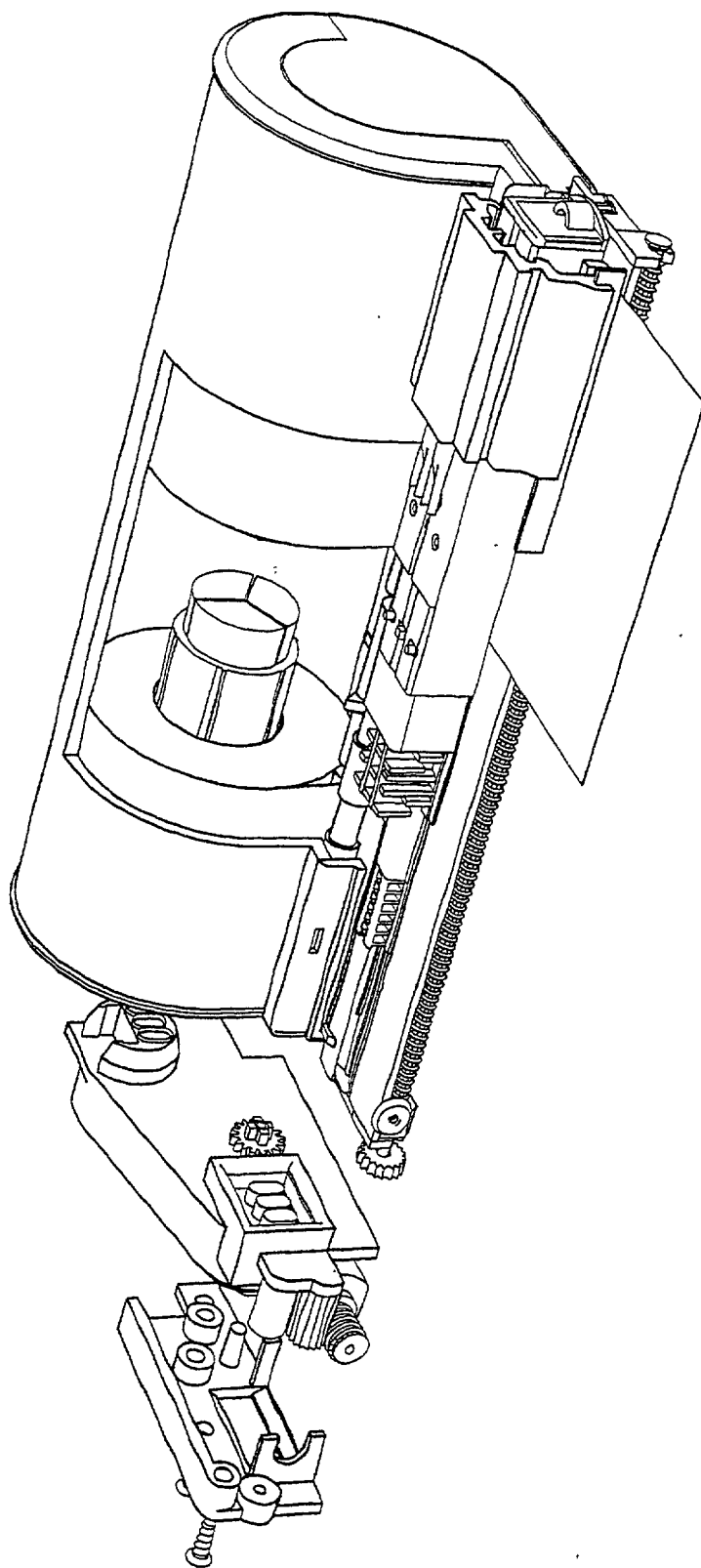


FIG. 100

FIG. 100

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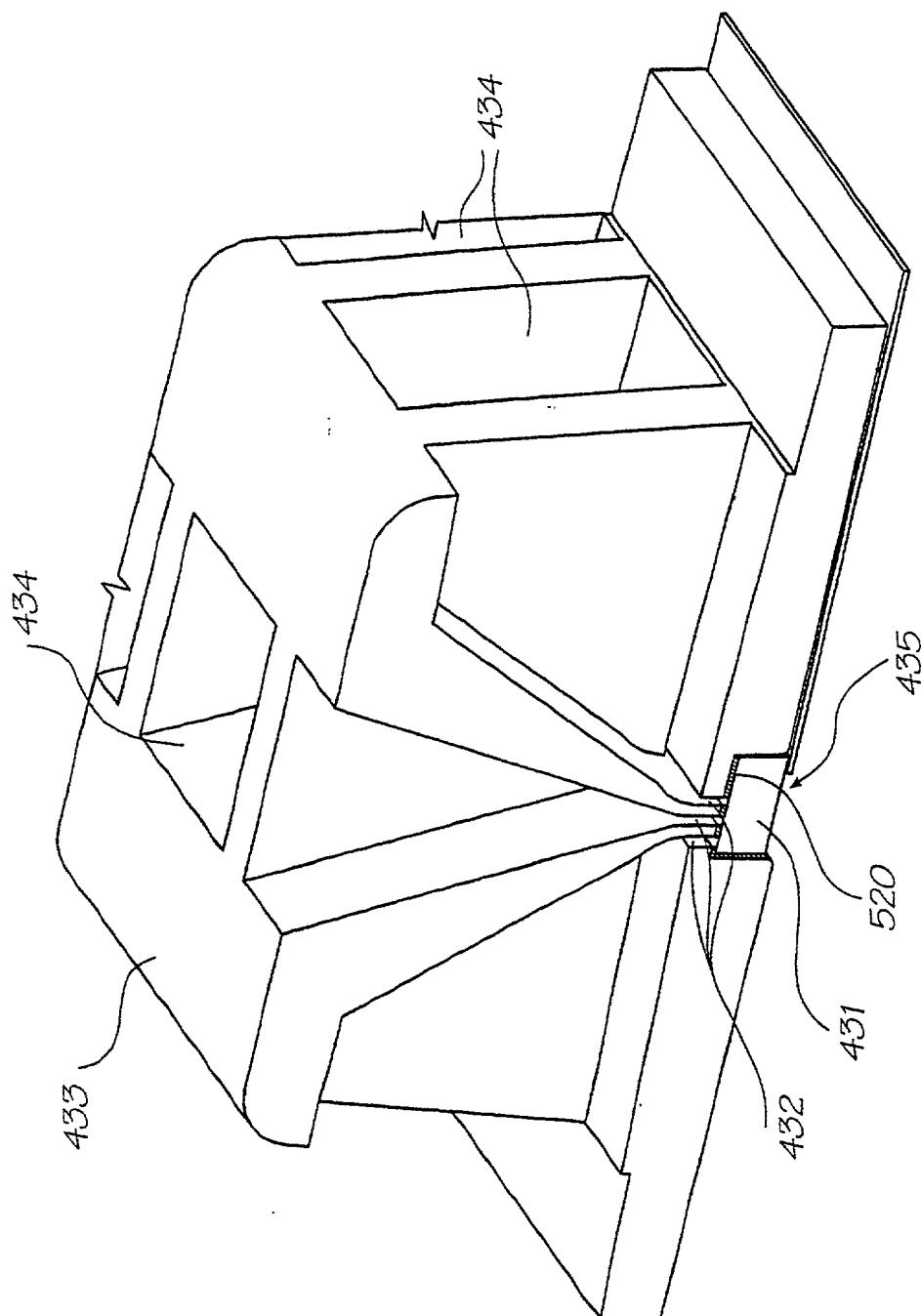


FIG. 101

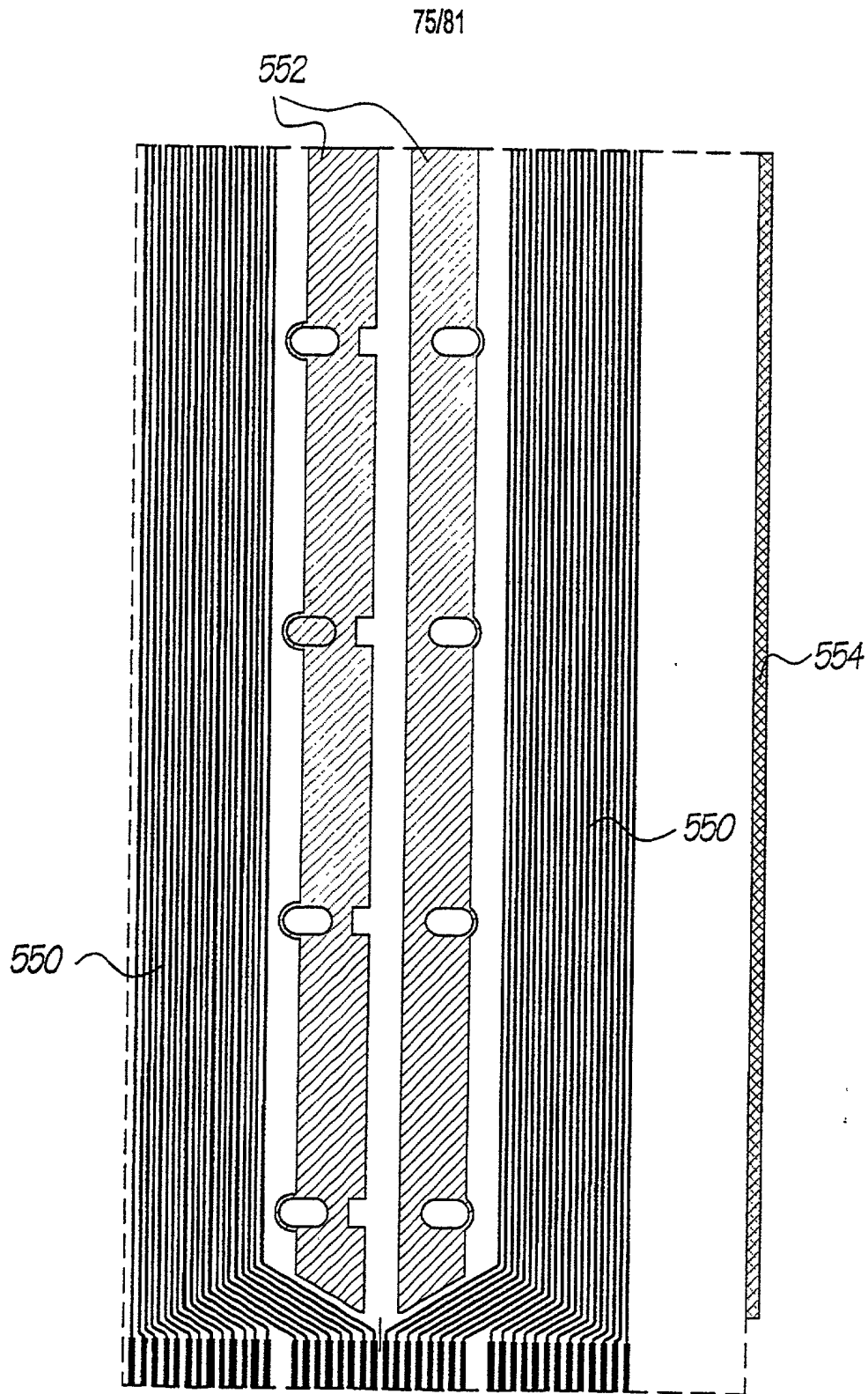


FIG. 102

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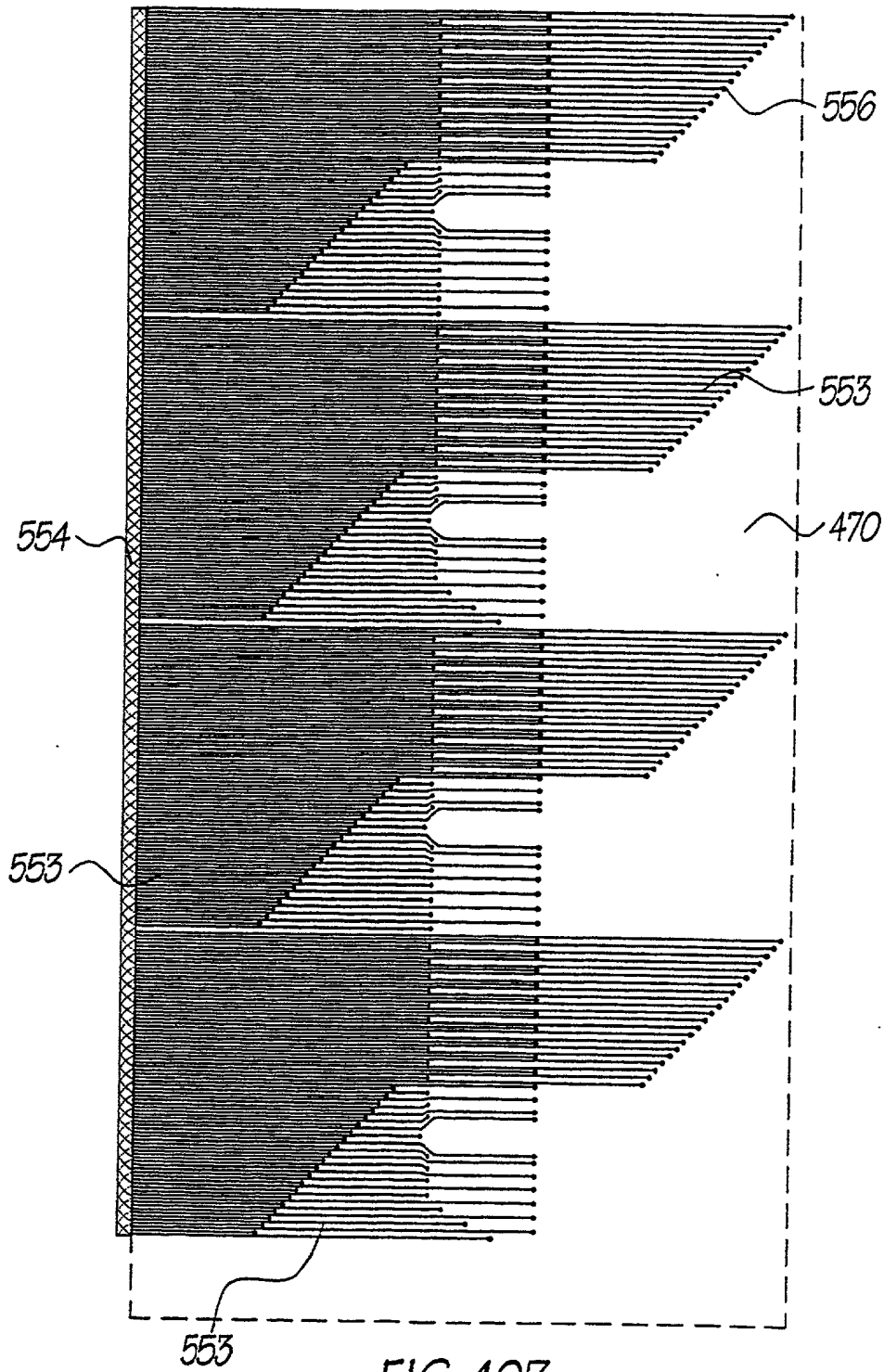


FIG. 103

FIG. 103

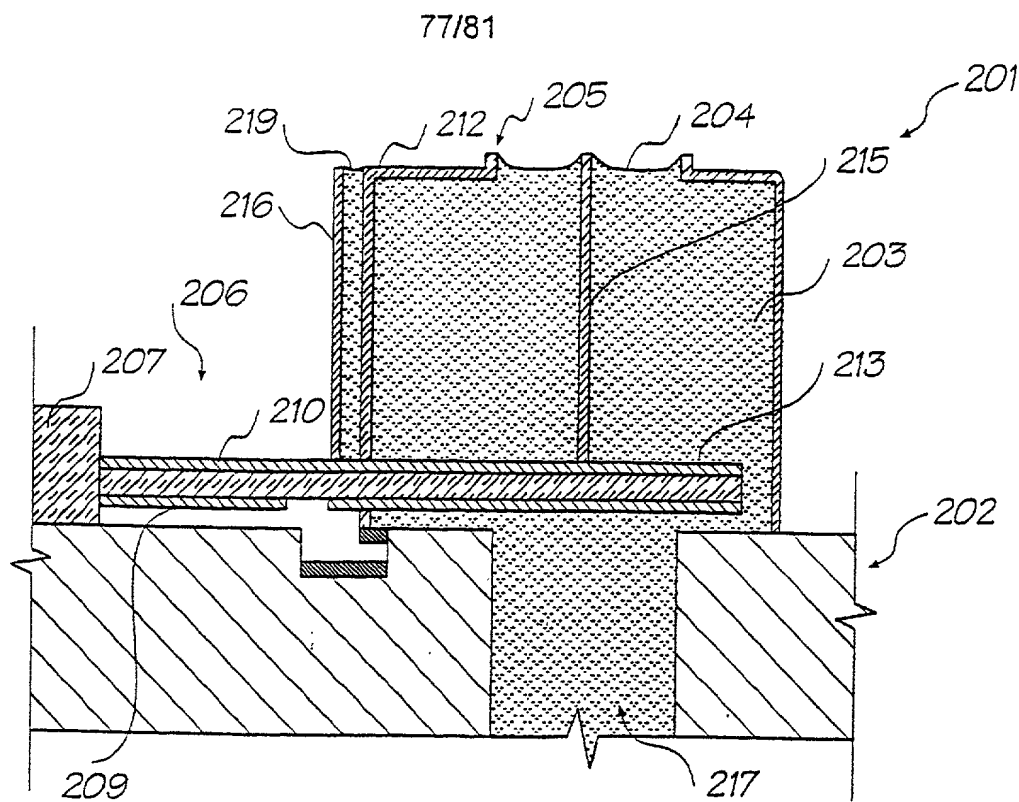


FIG. 104

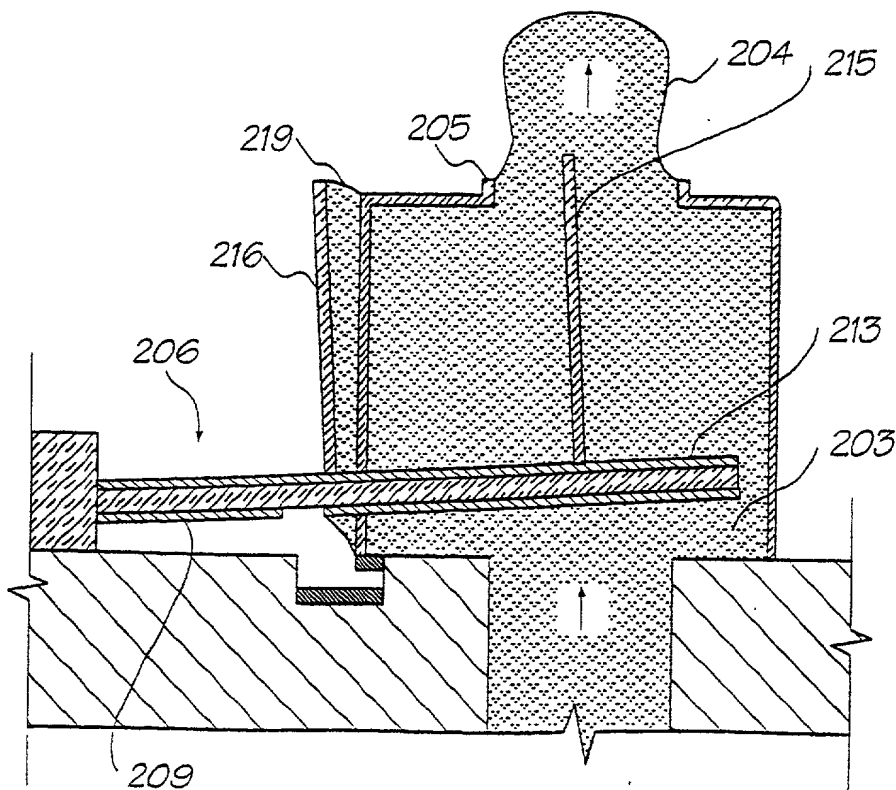


FIG. 105



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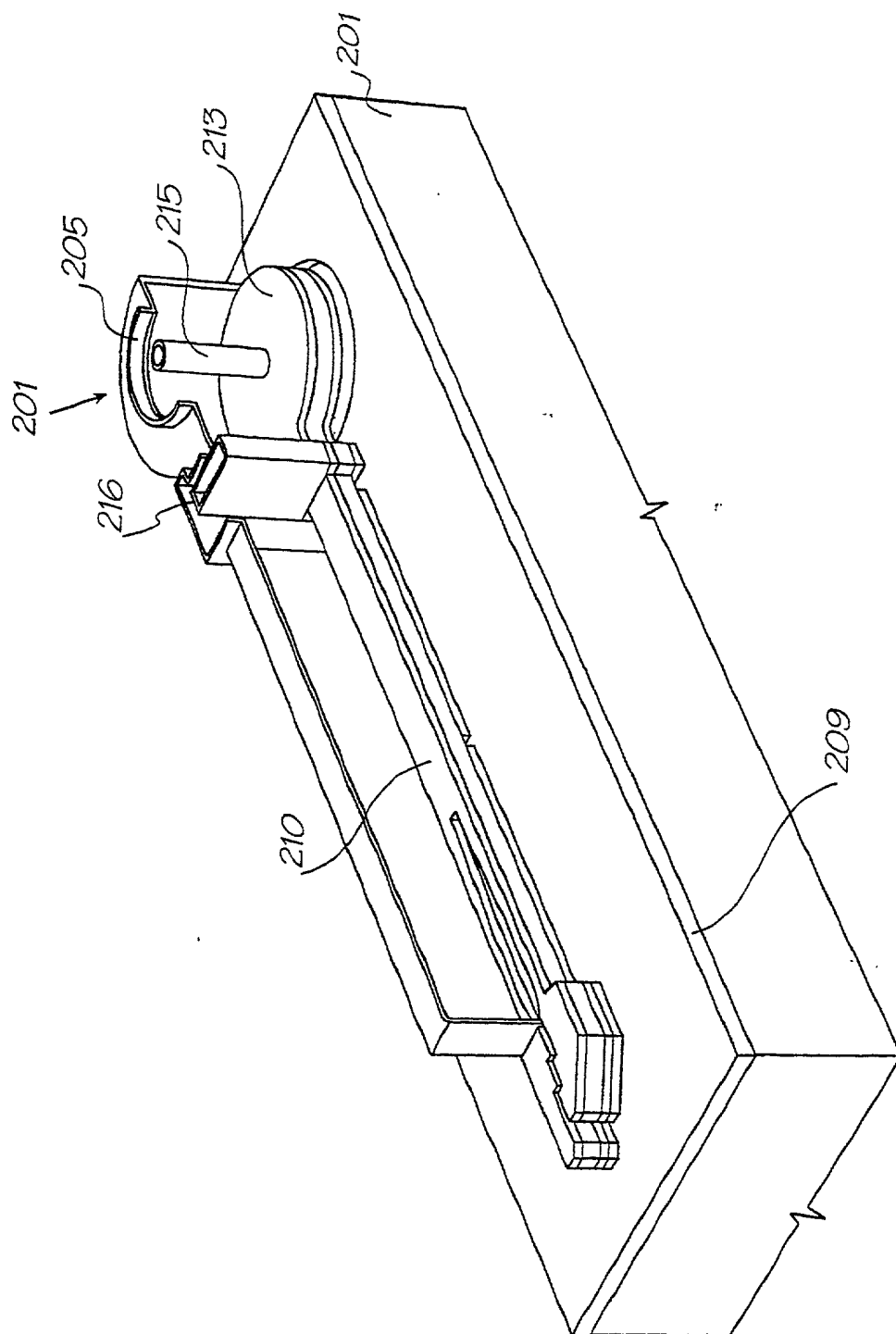


FIG. 107

FIG. 107

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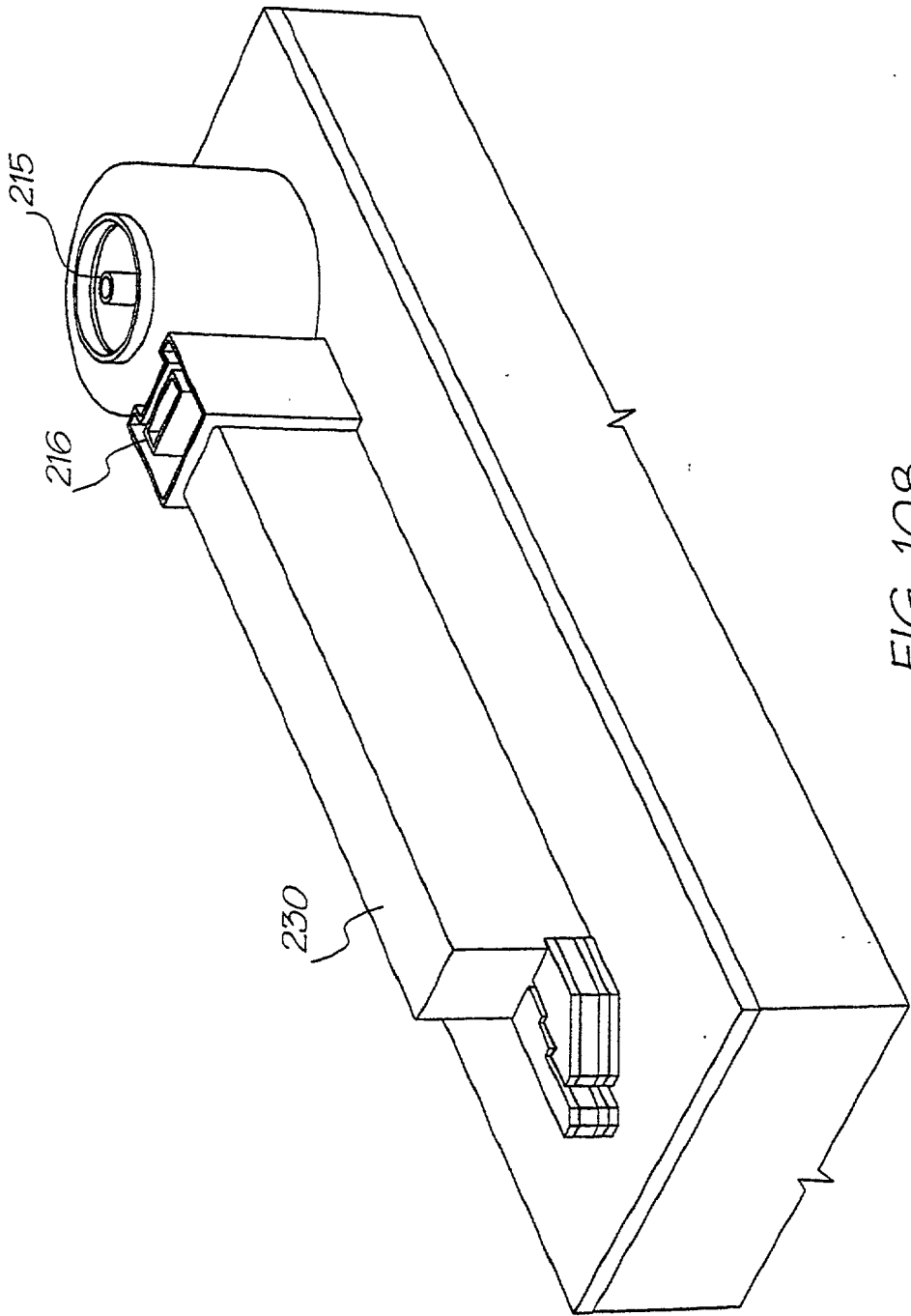


FIG. 108

FIG. 108



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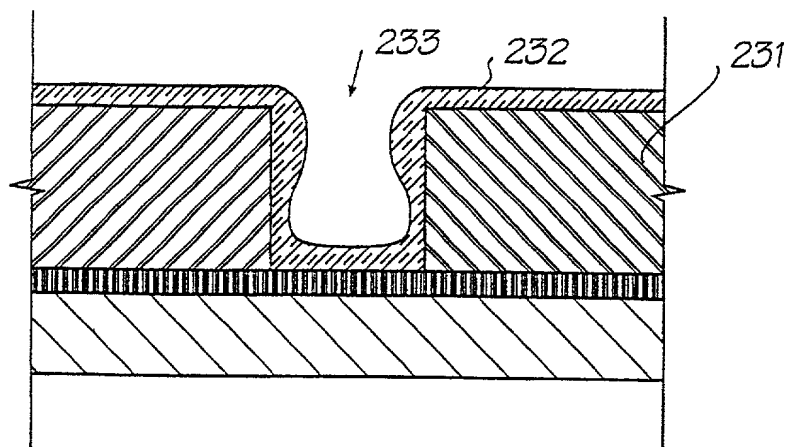


FIG. 109

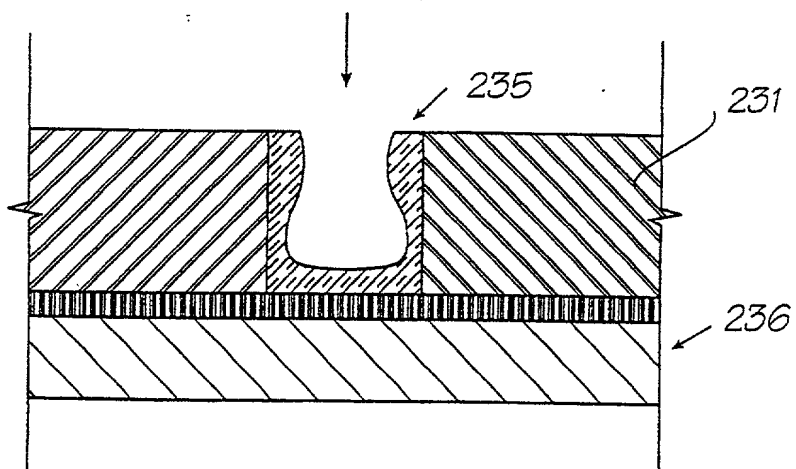


FIG. 110

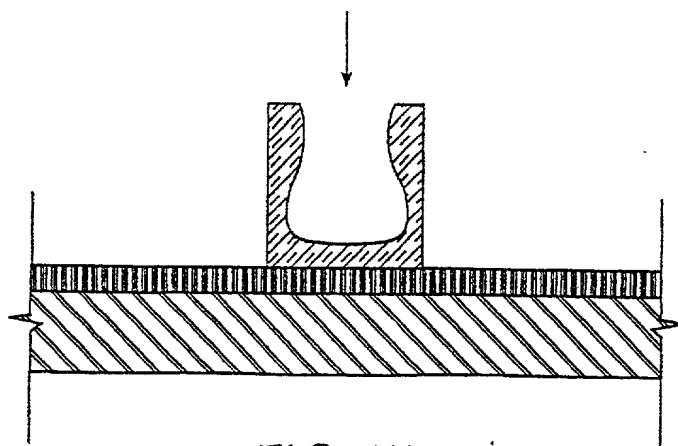


FIG. 111